REPORT RESUMES

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SCHOOL LUNCH AND LEARNING.

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A COMPREHENSIVE PRESENTATION OF IDEAS IS MADE IN THIS PUBLICATION TO HELP THE SCHOOL PRINCIPAL ORGANIZE AND CONDUCT A SCHOOL LUNCH PROGRAM, AND TO FURNISH THE CLASSROOM TEACHER PRACTICAL SUGGESTIONS FOR ENRICHING THE TOTAL CLASSROOM PROGRAM THROUGH SCHOOL LUNCH EXPERIENCES. SCHOOL LUNCH IS THE TOPIC OF THE FIRST SECTION AND INCLUDES SUB-TOPICS ABOUT--(1) ORGANIZING FOR THE SCHOOL LUNCH, (2) HOUSEKEEPING PRACTICES, (3) NUTRITION, (4) LUNCHROOM EQUIPMENT, (5) SAFETY PROCEDURES, (6) MEASUREMENTS AND EQUIVALENTS, AND (7) THE USE OF DRIED MILK AND EGGS AND BEANS. THE SECOND SECTION CONTAINS MANY INNOVATIVE SUGGESTIONS RELATING TO CORRELATION OF THE LEARNING PROGRAMS WITH THE SCHOOL LUNCH PROGRAM. IT CONTAINS SECTIONS DEVOTED TO--(1) GOALS WHICH CAN BE CORRELATED WITH THE SCHOOL LUNCH PROGRAM, (2) TEACHER-PUPIL PLANNING, (3) LANGUAGE ARTS, (4) SOCIAL STUDIES AND DEVELOPMENT, (5) MATHEMATICS, (6) SCIENCE AND HEALTH, AND (7) ADULT EDUCATION. AN APPENDIX SECTION INCLUDES A BIBLIOGRAPHY, REFERENCES FOR TEACHER AND PUPIL USE, AND SOURCES OF FREE AND INEXPENSIVE MATERIALS. (ES)

SCHOOL LUNCH AND LEARNING

BY EUNICE LOGAN AND VERNA JENSEN

ILLUSTRATED BY ALICE C. COOK • JUNEAU AREA OFFICE

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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SCHOOL LUNCH AND LEARNING....

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DEDICATION

This volume is dedicated to Max W. Penrod, whose interest and zeal initiated the lunch program in BIA schools in Alaska, and led to the writing of this handbook.

PREFACE

Perhaps nowhere in the United States does the school lunch program play a more important role than in the small, isolated villages of Alaska. Here, where food supplies often run short during certain seasons, the school lunch becomes partciularly important as a means of supplementing the child's daily food intake.

As a means of introducing the child to new foods, new methods of preparation and for encouraging good eating habits, the school lunch program also affords many excellent opportunities for a beginning in sound nutrition education.

The Bureau of Indian Affairs is to be congratulated on the production of this manual, which offers the teacher a wealth of practical information and suggestions for utilizing the school lunch program to meet the physical and educational needs of the pupils.

Particular commendation goes to the authors, Miss Eunice Logan and Mrs. Verna Jensen, for the admirable job they have done in gathering, compiling and presenting this material in a highly useful fashion.

Representing, as it does, contributions from many individuals and many organizations with practical experience in the fields of nutrition and education as they apply in Alaska, the manual should prove adaptable for use in a variety of situations.

To those teachers who seek guidance in making the most of this important segment of the school program we recommend careful study of this long-awaited publication.

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PURPOSE

This bulletin has been prepared to help the school principal organize and conduct a school lunch program, and to furnish the classroom teacher practical suggestions for enriching the total classroom program through school lunch experiences.

It is recognized that all the schools do not, as yet, have adequate food service facilities. Efforts are being made to improve this situation as rapidly as possible. In the meantime there are many schools where teacher ingenuity, bolstered by community cooperation, is overcoming inadequacies to a truly inspiring degree.

It is hoped these teachers who are meeting children's nutritional needs despite substandard facilities, as well as those blessed with well-equipped kitchens, will find in this bulletin practical suggestions applicable to the problems peculiar to their respective programs.

The possibilities for curriculum enrichment through school lunch activities could be dealt with on these pages in only the most cursory fashion. The suggestions advanced here are intended to stimulate and encourage teachers to employ initiative and imagination in making maximum use of the educational potentialities of the school lunch program.

ACKNOWLEDGMENTS

The compiling, editing and writing of the information contained in this publication is largely the work of two Bureau employees, Miss Eunice Logan, Education Specialist, (Gen.) and Mrs. Verna Jensen, Teacher of Home Economics at Mt. Edgecumbe Boarding School. Miss Logan and Mrs. Jensen were assisted by the Bethel School Lunch Program Study Committee, working under the direction of Robert D. Hollingsworth, Area Field Representative. The members of this committee engaged in extended action research on problems related to the school lunch program. Their work resulted in the compilation of a body of highly pertinent information, suggestions and recommendations. All the combined training and years of experience of these writers and contributors, plus many hours of research on the part of each of them, have gone into the production of this publication.

Miss Logan has been continuously associated with classroom teaching since 1931 in which year she entered the service of the Bureau of Indian Affairs at Phoenix, Arizona. Her experience covers 25 years of teaching and school supervision in Alaska. She saw the inauguration of the hot lunch program in Alaska Day Schools. This before and after view of school feeding enabled her to see the dramatic relationship between nutrition and learning. Through first hand experience she developed a deep respect for the accelerated achievement which results when the two are correlated.

For the past six years Miss Logan has been occupying the position of Education Specialist in the Juneau Area Office. In this capacity she has maintained her close contact with the problems of classroom teaching and at the same time engaged in extensive study and research.

Mrs. Jensen has had a unique advantage in her teaching career. Qualified by training, both as an elementary and a home economics teacher, she has had experience in both fields. In 1949 Mrs. Jensen entered the Service of the Bureau of Indian Affairs as an elementary day school teacher at Tanacross, Alaska. She, too, witnessed the launching of the first lunch program for Day School children in Alaska. As a day school teacher she had an opportunity to become acquainted with the problems attendant upon preparing and serving food to large numbers of children under difficult conditions. From Tanacross, Mrs. Jensen transferred to Mt. Edgecumbe Boarding School where she is presently teaching in the Home Economics Department.

This fortunate combination of training and experience has eminently fitted both Miss Logan and Mrs. Jensen for participation in the task of preparing this bulletin, SCHOOL LUNCH AND LEARNING.

SPECIAL ACKNOWLEDGMENTS

Many people deserve our thanks for their assistance during the preparation and publication of this handbook. The ideas and suggestions of numerous teachers and other employees of the Bureau of Indian Affairs are incorporated in these pages. We wish to acknowledge the generosity of the Department of Health and Welfare in giving permission to use many meaningful quotations and charts, and to several individual members of this Department who spared neither time nor effort in giving us much needed assistance. We express our appreciation to members of the U. S. Public Health Service, Division of Indian Health, who contributed many invaluable suggestions.

We are especially indebted to Dr. Bertlyn Bosley, Chief, Nutrition and Dietetics Branch, Indian Health Division, and Miss Winston Osborn, Nutrition and Dietetics Area Officer, PHS Alaska Native Health Area Office; to Dr. Christine Heller and Dr. Edward Scott of the Arctic Health Research Center, United States Health, Education and Welfare Department, for their painstaking review of the total work and their many suggestions for technical improvement.

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PART I

THE LUNCH

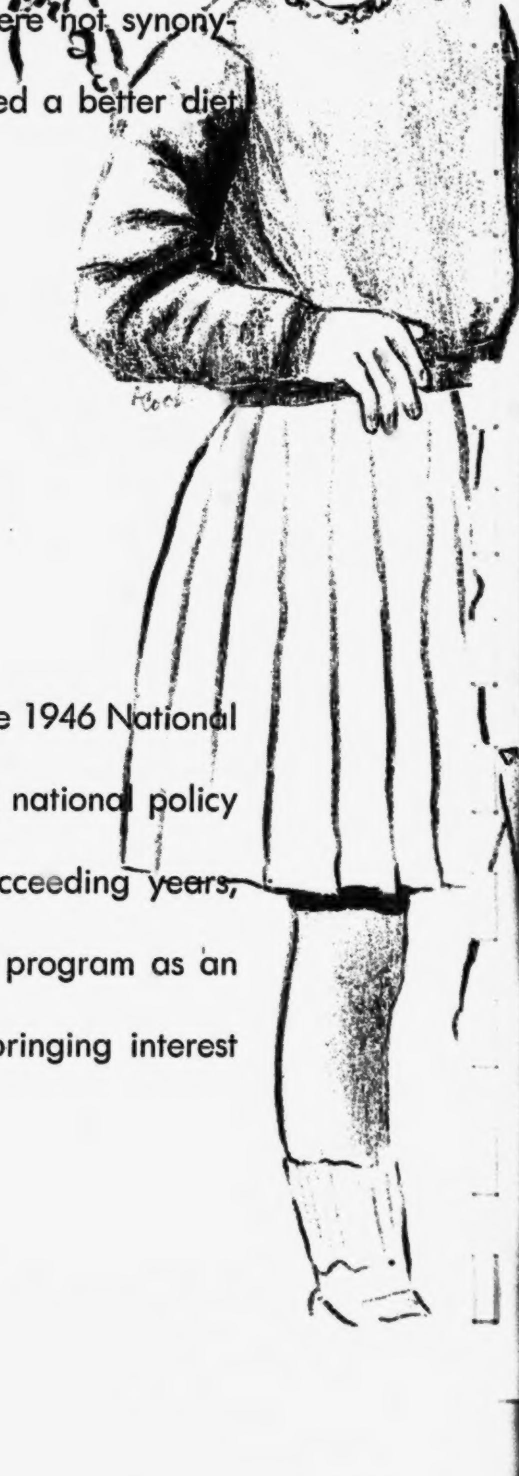
Introduction

WHY THE SCHOOL LUNCH?

The development of the school lunch program has been slow. The lunch pail was good enough for grandfather and despite the obvious fact that grandfather might have grown to greater physical and intellectual stature had he been privileged to eat a hot, nutritious lunch, some school people still look upon the cold sandwich as a sacred institution. The first movement to put the lunch pail on the shelf arose in Europe more than a hundred years ago when certain groups became concerned over the widespread dietary deficiencies among children. About forty years later a few eastern cities in the United States set up a school feeding program. In the beginning, little more was provided than a hot drink supplement to the lunch pail sandwiches. A hot dish was served on stormy days in some schools, but these were localized efforts without uniformity.

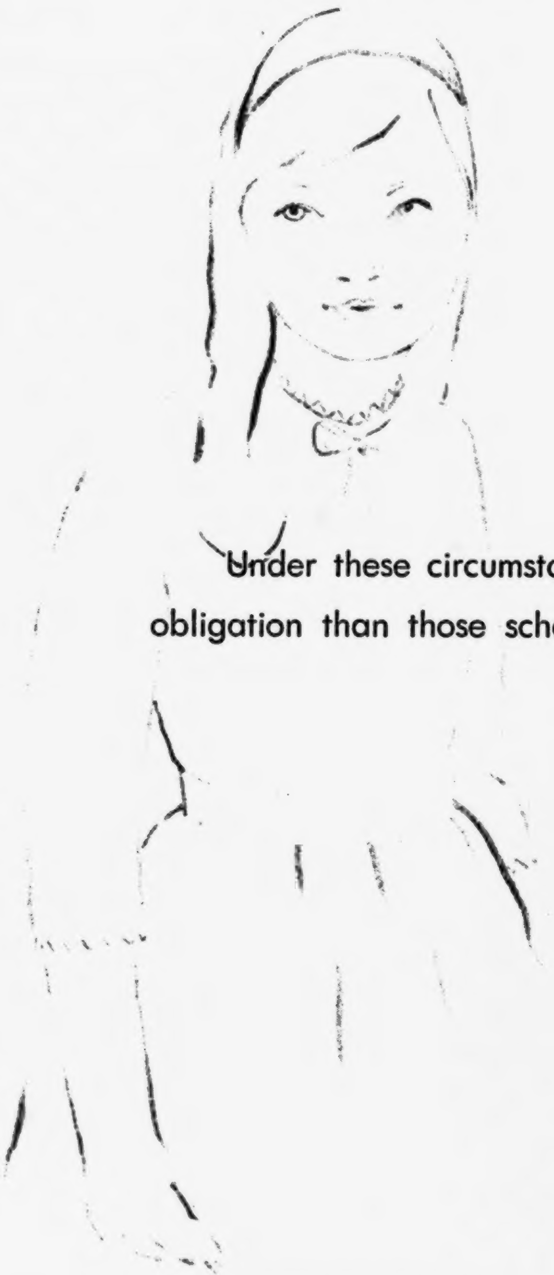
The depression years gave nation-wide impetus to the movement to feed needy children through Federal aid programs. For several years thereafter educational policy more or less restricted the feeding program to the economically deprived child, but the concept of nutritional needs was changing. Medical authorities were ferreting out deficiencies in children who lived in homes with well stocked cupboards.

The conviction grew that a good diet and a good cash income were not synonymous. This led inescapably to the conclusion that many children needed a better diet and that both children and parents needed nutrition education.



This growing public interest in the dietary needs of children led to the 1946 National School Lunch Act which established concern for adequate nutrition as a national policy and the school lunch program was no longer a stepchild. During succeeding years, more and more school administrators began to look upon the feeding program as an integral part of the curriculum, and lunch activities as a vehicle for bringing interest and enrichment to learning for the benefit of all children.

This national policy* of regarding all hungry children as needy children has significance for the BIA program in Alaska. The nutrition of Indian and Eskimo people is surrounded by factors which combine to create more serious problems than found in many other areas of the United States. The more outstanding ones being:



1. Low economic status of many families.
2. Climatic conditions which preclude the home production of milk, eggs, fruit, vegetables, and other foods essential to good nutrition.
3. Distances of homes from stores and markets where foods can be purchased at prices which prevail in competitive locations.
4. Lack of knowledge of fundamental food requirements.
5. To some extent, cultural food taboos.
6. Lack of facilities to store quantities of food.
7. Shortage of fuel.

Under these circumstances Bureau of Indian Affairs schools have an even greater obligation than those schools serving more favored communities to:

1. Provide diets for the children that will improve their nutrition status and will bring their physical well-being up to an optimum level.
2. Encourage children to eat sufficient quantities of a variety of foods, whether familiar or unfamiliar, that will meet their nutritional needs.
3. Teach the essentials of good nutrition in all classes so that students will develop an understanding of what constitutes a good diet and will know how it can be applied in the home with the foods they can purchase or obtain.

The school administrator can no longer shrug off the school lunch program as being unnecessary. A good whale catch and a good berry crop do not constitute adequate nutrition. Schools located in economically depressed communities must accept the fact that good food and learning are as inseparable as learning and good teaching.

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*FOOD AND NUTRITION SERVICES OF FEDERAL AND QUASI-OFFICIAL AGENCIES OF THE UNITED STATES, U. S. Department of Agriculture, May, 1960 p. 22.

Organizing for the School Lunch

WHO MUST PREPARE THE SCHOOL LUNCH?

In multi-classroom schools:

A full-time cook will be employed.*

In two-classroom schools:

A part-time cook will be employed for as many hours of the day as can be justified on the basis of enrollment.

In one-teacher schools:

In those cases where the non-teaching spouse is employed as the General Assistant, he or she will be responsible for preparing and serving the lunch.

In all schools:

In the past, parents and public spirited community members have given invaluable assistance to the lunch program. This has many positive values and should be encouraged. Wherever possible, it is highly desirable that community participation be coordinated with adult education programs.

The Bethel District Committee on School Lunch Program Study made the following recommendations:

1. That teacher participation be confined to planning and supervision.
2. That pupil participation be permitted only in a planned, learning situation; that students never be withdrawn from the classroom to carry out chores which have little relation to the overall BIA education program.

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*Within budget limitations in each instance.

TIME OF SERVING

The hour at which the meal is served at school will vary from place to place; in some cases an early breakfast is provided, in others a noon lunch. Each time has its distinct advantage dependent on local conditions and the teacher's personal preference.

Breakfast Serving:

In favor of the breakfast plan, we find nutrition studies indicate that the children who do not eat breakfast perform less well, both physically and mentally, in school, and may be more irritable and emotionally unstable. Children work better and have a more pleasant disposition when they have been fortified with a good breakfast. Many hours have passed since dinner the previous night; this dinner may have been meager, leaving them actually hungry at the time and much more hungry in the morning. In a great many cases no breakfast is provided at home before the child goes to school. As far as the teacher is concerned, breakfast takes care of the school lunch program early and it is out of the way, leaving the remainder of the time for the academic program. Many schools favoring this plan start serving at 8:30 a.m.

Some school people and health educators favor a noon meal on the premise that parents should assume the responsibility of providing breakfast for the child. This factor merits consideration. Teachers acting in accordance with the philosophy of teaching parent responsibility should see that both parents and children understand the importance of breakfast. In some instances it may be advisable to teach the child how to prepare a simple breakfast for himself, so that he need not come to school hungry if his parents fail to provide an early morning meal. While the school facilities and the desirability of developing parental responsibility must be considered, the child's welfare must be the controlling factor.

Mid-day Serving:

The mid-day meal is favored by schools in which the food preparation is carried out with the assistance of volunteers from the village who work during the morning hours. Most dishes can be prepared in this period and be ready between 11:30 a.m. and 12:00 noon.

Regardless of which time is selected as the lunch hour, the food need not always be what we consider a typical food for a typical meal. These children will eat and enjoy a bowl of oatmeal with raisins at noontime just as much as they will enjoy it at breakfast. A dish of beans or a bowl of soup will be relished as much first thing in the morning as later. The important thing to remember is that food from each group be provided and that it supply, at the very least, one-third of the child's requirements for the day.

PLACE OF SERVING

Each school must individually answer the question of where the meal is to be served. Facilities vary so widely that no standard procedure can be followed. Where no multi-purpose room is available, the children must eat at their desks.

Regardless of where children eat, individual trays or place mats should be used. The place mats may vary according to preference. Some teachers use oilcloth, others use paper napkins or paper towels. The latter two are disposable and convenient. If oilcloth is used, it is important that the mats be cleaned and dried thoroughly so that no moisture or food particles remain to provide a breeding place for bacteria.

Each child should be provided with a paper napkin, and if necessary, taught how to use it.

METHODS OF SERVING

If the cafeteria type of service is used, each child carries his own plate to his table or desk. Teachers who favor this plan feel it is worthwhile because of the educational opportunities for self-help.

In a modified form of this plan, the younger children remain at their seats and have their plates brought to them by older members of the school. Students in the upper grades each carry their own plates from the serving area. In almost all cases, the beverage, bread, and butter are served to the students at their places by helpers.

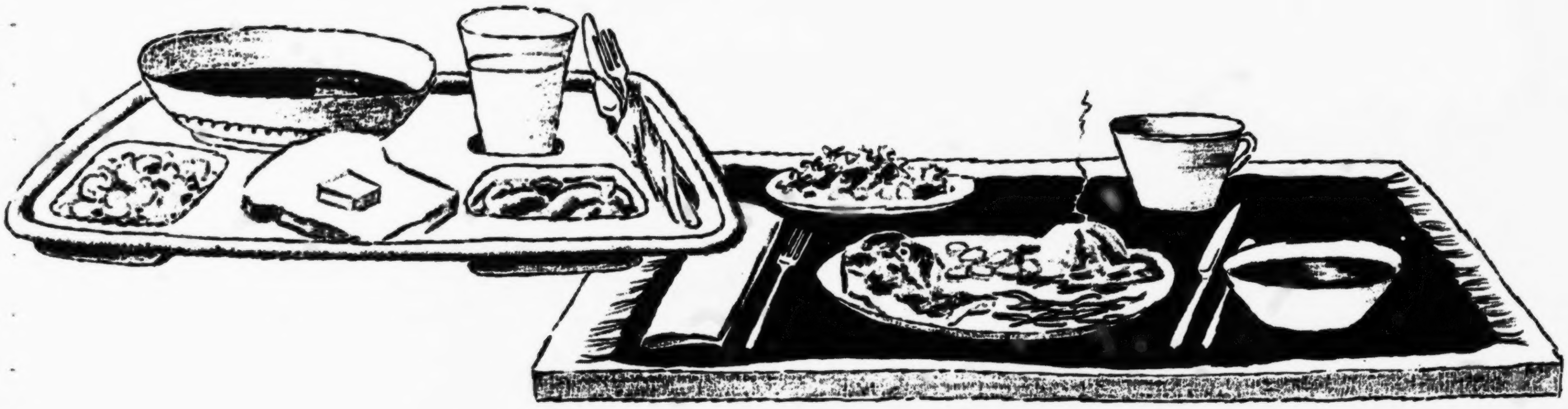
Pointers in good service:

1 It is well to remember that it is better to give second helpings than to make the first helping too large. Sometimes children will not eat all the food because the serving was too large. No matter how simple the food, it should be served as nicely as possible because the appearance of food affects the child's attitude toward the meal. If the food is served carelessly so that the plate looks "messy", secretion of digestive juices is actually delayed.

2 Consider the temperature of foods; serve hot foods hot, and cold foods cold.

3 Children pay as much attention to the texture of foods as adults do. Thick, pasty, sticky white sauces, stiff cornstarch puddings, or soups that are too thick or too thin are often refused by children because of their unpalatable consistency.

4 Common food likes and dislikes should be considered when combining flavors. Foods which are generally liked should always accompany dishes that are not so well liked. This is an important factor in developing a taste for certain foods.



5

Seasonings should be used to bring out, and not to cover up, the natural flavor of foods. Pepper and spices should be used sparingly, if at all.

6

If a dessert is served, it should be placed in a separate dish (unless compartmented trays are used). Children should not have to finish one part of the meal in order to empty a dish in which the dessert can be placed. Neither should they have to drink their milk so the dessert can be put in the cup. Use of a cup for serving anything but a beverage is undesirable as the child may develop a tendency to "drink" the food.

7

Enough dishes should be at the station to take care of the needs for each child. Order an ample supply on the annual requisition and enlist the aid of the Area Field Office to see that the order is filled. No matter how simple the meal, it should be served in the nicest way possible; this cannot be done if equipment is inadequate.

Table setting

There are only a few simple rules to remember in setting the table. These have been designed to consider comfort and convenience. Clean place mats, dishes, and silver look better; make the food more appetizing, and more healthful. They should be placed on the table in an orderly way.

1. Place mats should be placed one inch from edge of the table, directly in front of the student. Always use clean place mats. (Place mats may be made from cloth, oil cloth, paper, paper towels or paper napkins.)

2. Plates and silver should be one inch from the edge of the table.

3. The knife is placed at the right of the plate, blade turned inward. When the knife is unnecessary the fork and/or spoon may be placed at the right of the plate.

4. The spoon is placed at the right of the knife with the bowl placed up.

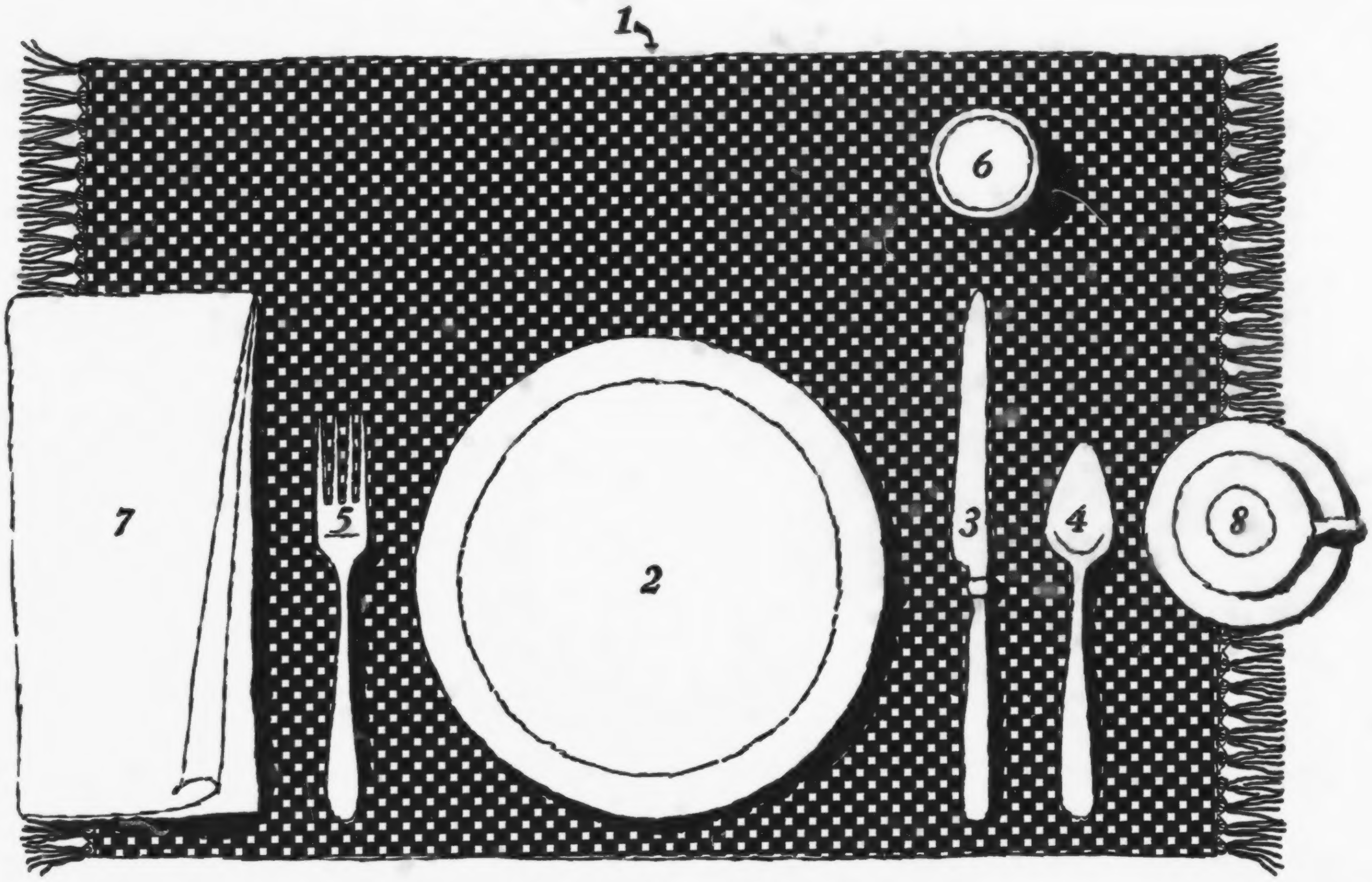
5. The fork is placed at the left of the plate with the tines up.

6. The glass is placed at the tip of the knife or fork; it is at the right.

7. The napkin is placed at the left of the plate and fork; the open edges are parallel with the edge of the table and with the fork.

8. The cup is placed at the right of the spoon.

Most Common Way to Set the Table



1. Place Mat
2. Plate
3. Knife
4. Teaspoon
5. Fork
6. Water Glass
7. Napkin
8. Cup and Saucer

Follow-up

The plates should be checked at the end of the meal to see what food, if any, is not being eaten. This will help in correcting mistakes in planning or preparation. Children may leave food on their plates for any of the following reasons:

1. The food was new to them.
2. The food did not look nice on the plate.
3. The servings were too large.
4. The food was too dry.
5. The recipe was not followed and the food did not taste good.
6. Food that should be hot was served cold.
7. The food was scorched or improperly prepared.
8. The dish had been served too frequently, and the children had tired of it.
9. The child did not feel well.
10. The child was suffering from an emotional disturbance.

As soon as it has been determined why foods were not eaten, it will be easier to avoid a recurrence of the mistake.

A child should not be compelled to eat all the food on his plate, but he should be encouraged to do so. Small servings with the privilege of asking for a second helping will attract members to the Clean Plate Club. Small servings are especially important when the child is being introduced to new foods.

Indirectly the school lunch is responsible for establishing good food habits in children, for they will not learn to eat the proper food unless it is prepared and served in an appetizing manner.

A committee of students can help restore the lunchroom or classroom to order when the meal is completed. Be sure that desks and tables are cleaned carefully and that no food particles are left to make the surface sticky and gummy for the rest of the day.

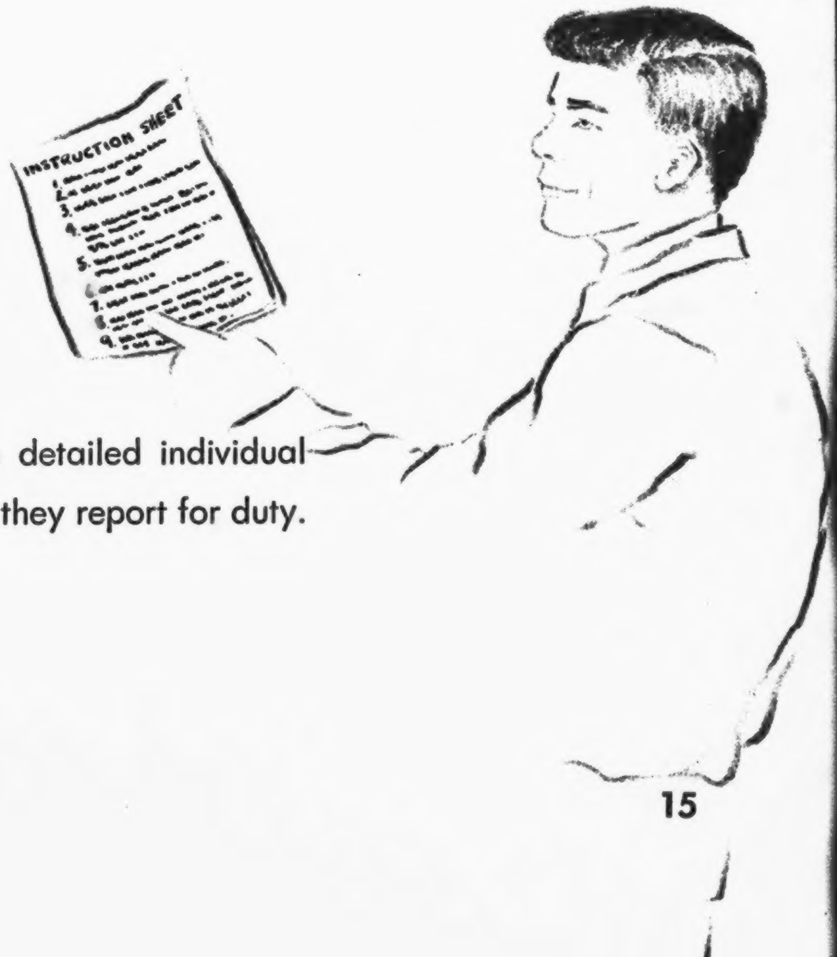
Time enough to eat without hurry is an important consideration.

MEAL TIMES SHOULD BE HAPPY TIMES

TRAINING SCHOOL LUNCH HELPERS

School lunch personnel, by nature of their work and its importance to the growth and development of the children, merit careful training. This applies to both the volunteer worker and the paid employee.

A pre-program workshop for lunchroom helpers could be advantageous to the school and the community. If facilities permit, all interested persons could well be invited to participate regardless of their immediate potential to the school lunch program. Acquired learnings could be beneficial to the home, and it would be a distinct advantage to have a list of trained reservists for emergencies.

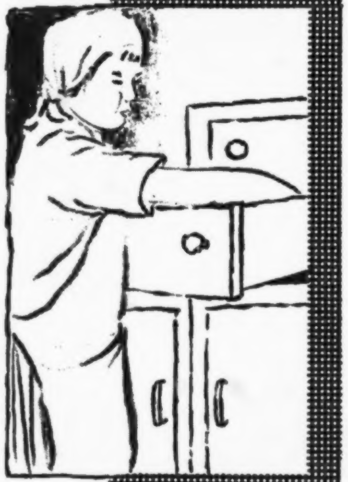


The foresighted principal will also develop detailed individual instructions to be given to the workers at the time they report for duty.

Establishing good work habits:

These suggestions will aid the cook and the helpers in doing a good job.

- Arrange to have preschool children of the family cared for at home and not brought to the school kitchen.
- Report to work promptly and regularly.
- Leave wraps, boots, packages in the designated places.
- Willingly accept supervision.
- Work quietly and efficiently.
- Follow directions carefully. Ask questions if there is doubt.
- Keep work surfaces and serving table clean and neat at all times.
- Put everything away in its proper place.
- Be ready to serve on time.
- Observe school regulations.
- Observe safety regulations (See page 107).
- Discourage friends from visiting at the school.
- Work out problems with the person in charge of the school lunch program.



Personal hygiene for workers:

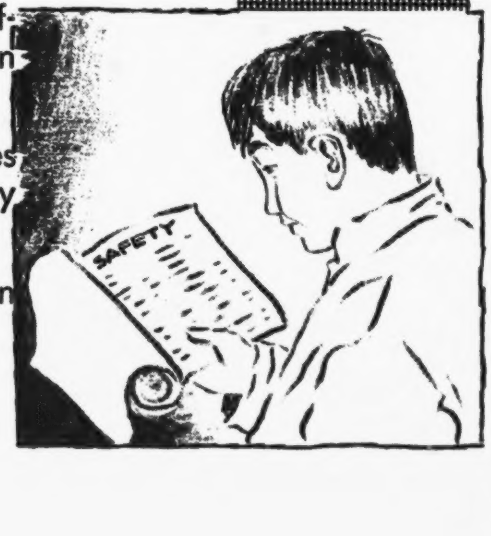
The school lunch worker knows it is vital that all those working on the school lunch be in good health. For this reason he or she:

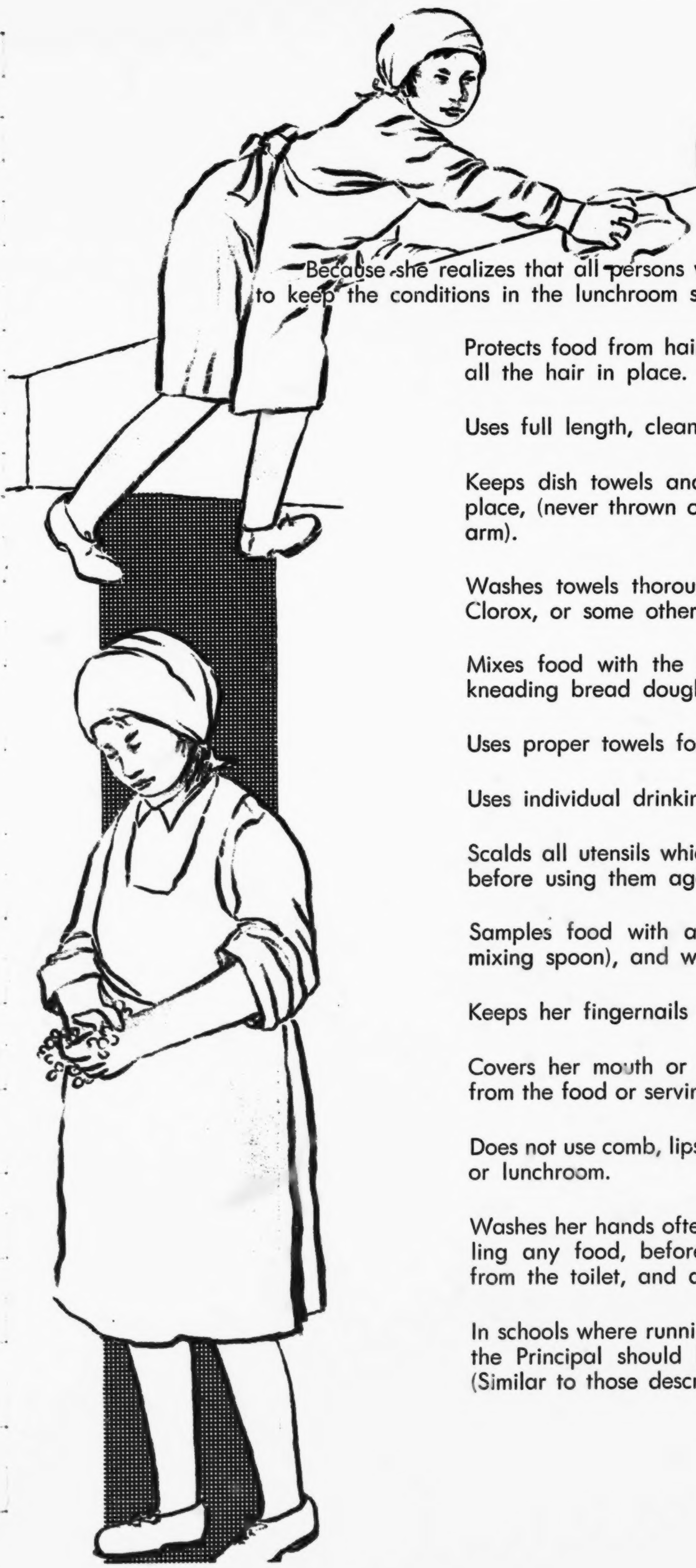
Understands the importance of a physical examination. When possible, arrangements should be made with visiting medical personnel for this service.

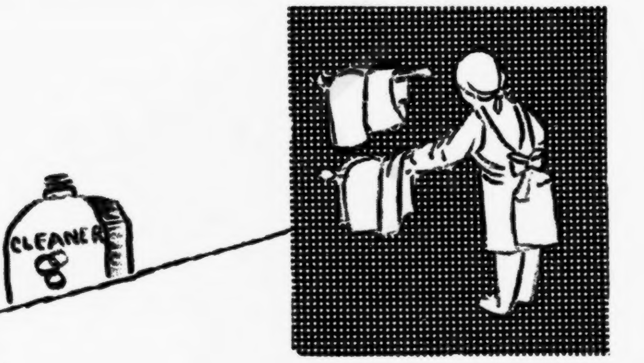
Notifies the school but does not report for work when afflicted with a sore throat, a cold, or has cuts or sores on the hands.

Makes sure she is free from any communicable diseases such as trench mouth, or flu, which may be carried by food, dishes, and silverware.

Is careful of her appearance. She keeps her person clean and her clothing neat.







Because she realizes that all persons working with food should take care to keep the conditions in the lunchroom sanitary, she:

Protects food from hair by wearing a hair net that keeps all the hair in place.

Uses full length, clean apron.

Keeps dish towels and hand towels hung in the proper place, (never thrown over the shoulders or carried on the arm).

Washes towels thoroughly every day in water to which Clorox, or some other sanitizing agent has been added.

Mixes food with the hands only when necessary, as in kneading bread dough.

Uses proper towels for drying hands; never dish towels.

Uses individual drinking cup.

Scalds all utensils which have been dropped on the floor before using them again.

Samples food with a "tasting spoon" (never using the mixing spoon), and washes and scalds it after each use.

Keeps her fingernails short and clean.

Covers her mouth or nose with Kleenex and turns away from the food or serving area when she coughs or sneezes.

Does not use comb, lipstick, and fingernail file in the kitchen or lunchroom.

Washes her hands often with soap and water before handling any food, before starting to serve, after returning from the toilet, and after touching the hair or face.

In schools where running water and sink are not available, the Principal should have improvised facilities installed. (Similar to those described on page 170.)

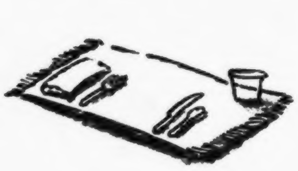
Understandings and skills to be developed:

How to read and follow a recipe.

TODAY'S
MENU

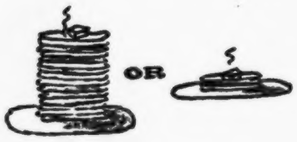
How to read a menu.

How to measure quantities in units of tablespoons, cups, pints, quarts, etc.



How to set a table.

How to serve food.



Amount of food for each serving.

Handling of trays, dishes, pitchers in a way to avoid spilling, bumping, and possible confusion.

She helps to keep things running smoothly by working well with others. Doing the same jobs from day to day will not always be easy, but she will have the satisfaction that comes from a job well done, in knowing that each day hungry children are being well fed and that each day they are learning valuable lessons.*

***Handbook For Workers in School Lunch Programs,** U. S. Department of Agriculture, p. 3.
Reference: HERE'S HOW, Health Officers News Digest

Good
Housekeeping
Practices

HOUSEKEEPING

Good housekeeping in the school lunch program is a very important part of each worker's job. It makes the kitchen and lunchroom safer and more sanitary places in which to work. It is easier to work in a clean room, and workers enjoy their jobs more when they are in clean, orderly surroundings.

There is some cleaning in every kitchen or lunchroom which must be done every day by the school lunch workers.

Scheduling of routine jobs

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

SUN	MON	TUE	WED	THU	FRI	SAT
		F Q 4th	F M 11th	L Q 18th	N M 26th	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23 30	24 31	25	26	27	28	29

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Daily Jobs:

1 Ventilating cooking, storage, and serving rooms.

2 Dusting furniture and cleaning all working and serving space.

3 Getting kitchen ready for lunch preparation and lunchroom ready for serving.

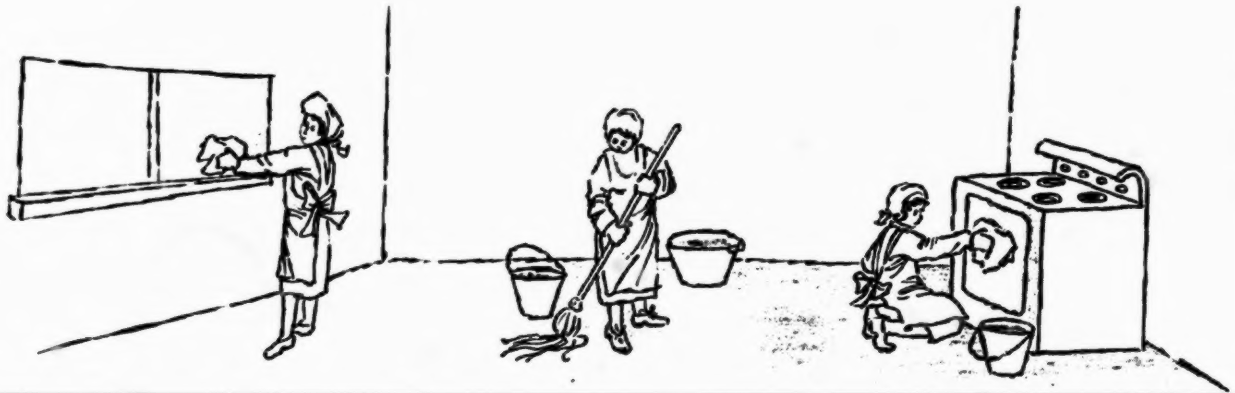
4 Cleaning stoves, sinks, and refrigerators.

5 Sweeping floors, and mopping if necessary.

6 Removing garbage and waste.

7 Final checking of rooms to see that everything is clean and in order.

8 Final checking to see that used dish towels have been washed and are hanging in a suitable place to dry (not too near the stove).



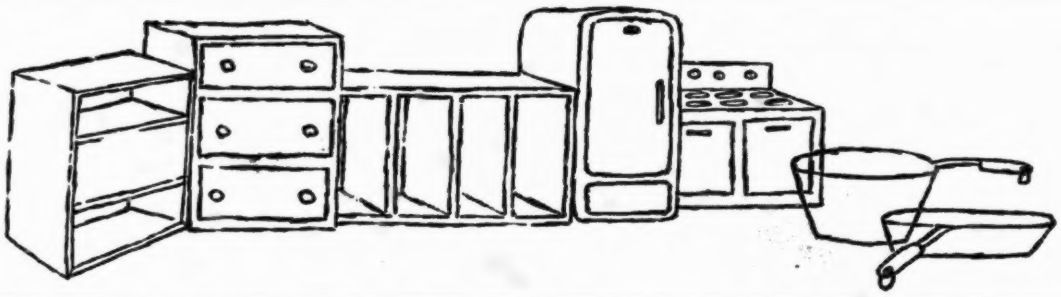
Weekly Jobs:

1 Thorough cleaning of shelves, drawers, cabinets, refrigerators, and stoves.

2 Washing window sills and removing marks from doors and woodwork.

3 Cleaning storeroom.

4 Special scouring of pots and pans.



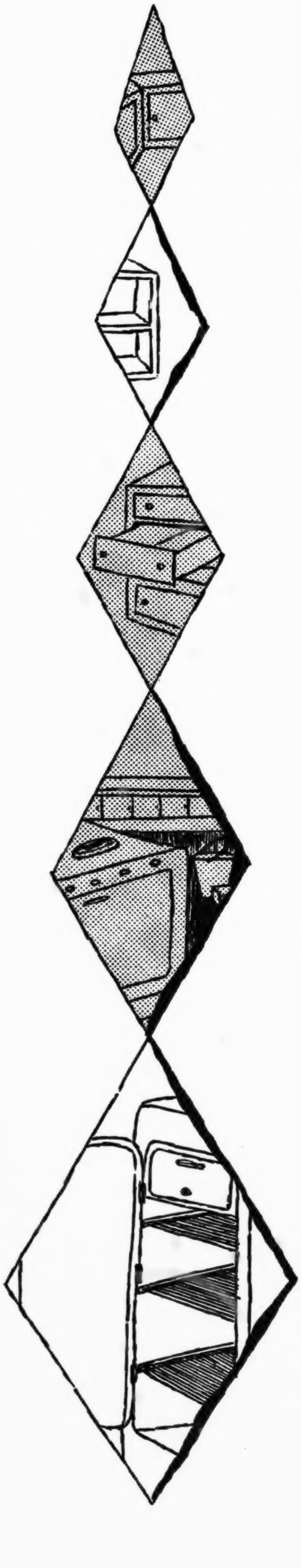
Occasional Jobs:

1 Washing windows and cleaning screens and shades.

2 Special cleaning of floors.

3 Special cleaning of mechanical equipment.

Cleaning Kitchen Equipment



Cabinets, cupboards, and drawers:

Kitchen cabinets and built-in shelves should be kept clean and orderly at all times. Usually it is necessary to clean shelves and drawers once a week by washing with hot, soapy water and then rinsing with clear water. If the doors and drawers are left open to dry, the cabinet will be aired at the same time.

Metal containers for supplies, such as flour, sugar, and cereals may be wiped with a damp cloth daily to remove finger marks. When these containers are empty, they should be washed, scalded, and dried thoroughly before being refilled.

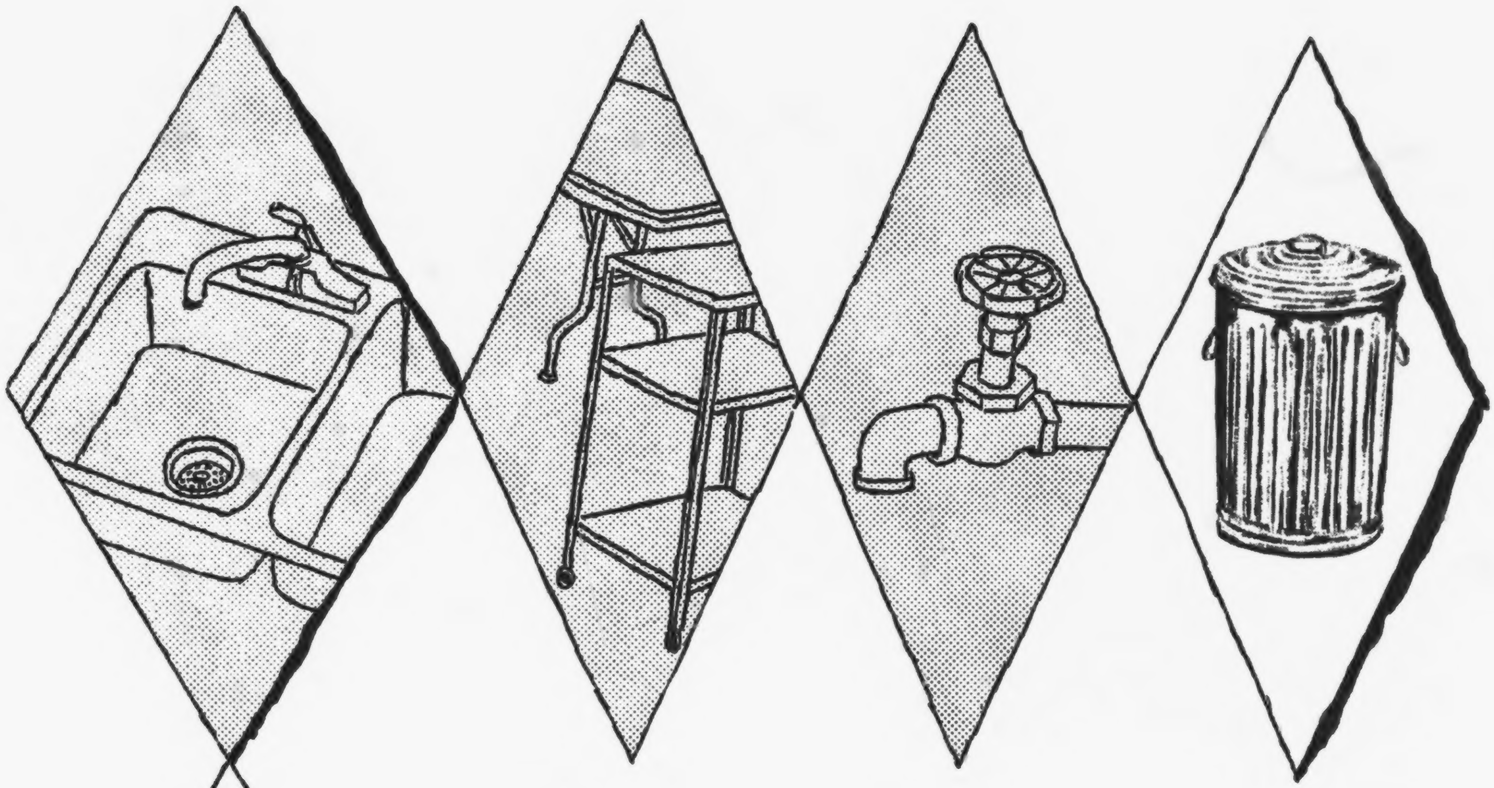
Stoves:

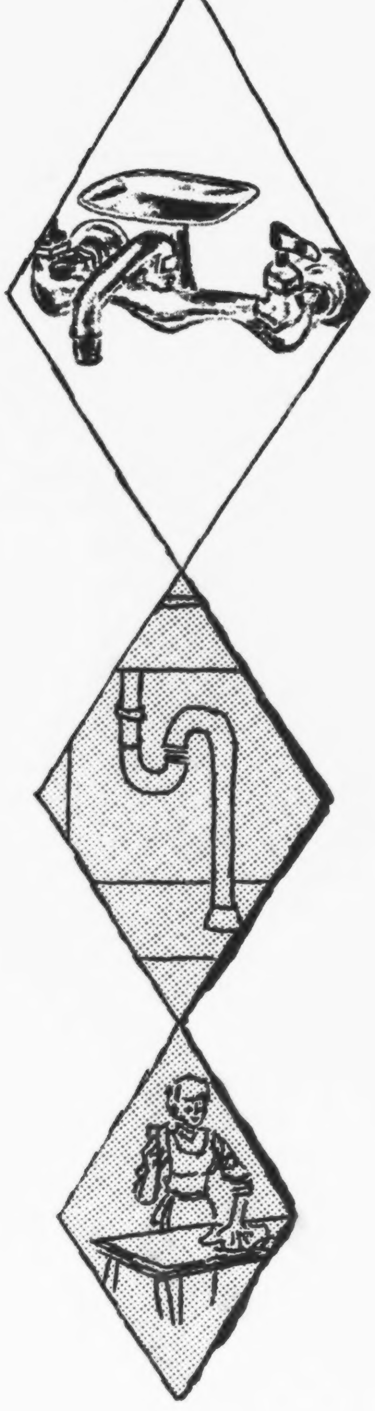
It is easy to keep stoves clean if some cleaning is done daily. Different types of stoves require different methods of cleaning. Consult the manual provided by the manufacturer for detailed instructions. Grease and spilled food should be wiped off at once, otherwise scouring is necessary when the food has hardened.

Refrigerators:

A clean refrigerator helps to keep food from spoiling. Dishes and containers used should be kept clean and covered. Any food which is spilled in the refrigerator should be wiped up at once.

At least once a week the refrigerator should be washed with warm water to which a little baking soda has been added. Racks should be removed, washed, and dried. Refrigerators usually need defrosting weekly.





Sinks:

To keep sinks in good condition it is necessary to scrub them daily with hot, soapy water and to use fine cleaning powders to remove stains and marks by pots and pans.

Most metal fixtures on sinks can be kept clean by washing with soapy water and polishing with a dry cloth.

Grease should never be poured into the sink. In order to prevent the drain from clogging, it is well to pour in a solution of sal soda and boiling water once a week. (This is easier said than done, of course, where plumbing is a problem in the village schools. In most cases the main concern is to keep the pipes thawed and open.)

Tables:

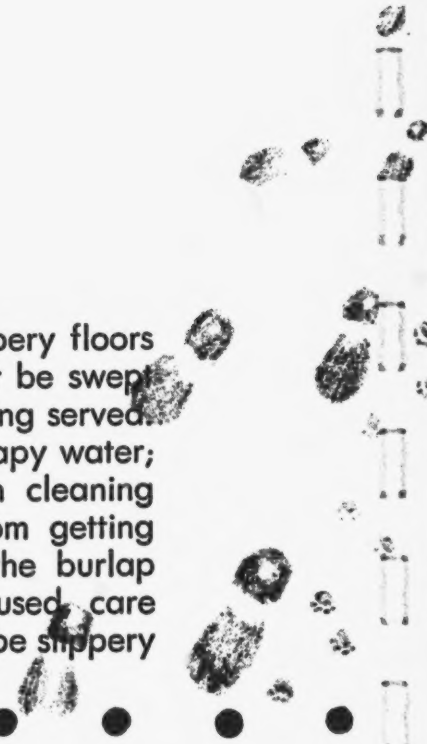
Work tables, as well as serving tables, should be kept spotless at all times. They may be wiped off with a damp cloth from time to time while they are in use during the day, but will need to be cleaned thoroughly at the end of the day.

Waste containers:

It is wise to wash and scald daily the containers which have been used for collecting waste food from cooking utensils and plates, or waste water. Whenever possible they should be allowed to remain open in the sun to be aired.

Cleaning Kitchen and Lunchroom

Floors:



Floors should always be kept clean. Dirty, slippery floors are dangerous to walk on. Floors should never be swept while food is being prepared or children are being served. Most floors can be mopped clean with warm, soapy water; rinsed, and wiped as dry as possible. When cleaning linoleum it is important to keep the water from getting underneath the linoleum in order to prevent the burlap backing from becoming mildewed. If wax is used, care should be taken not to apply too much as it will be slippery and dangerous.

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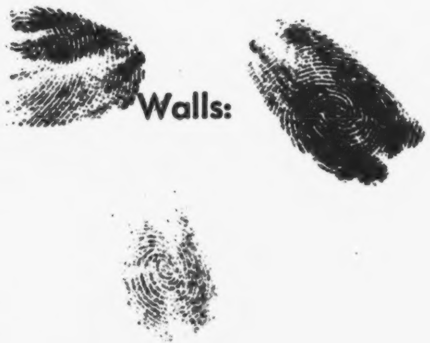

Walls:

Walls and doors need to be cleaned frequently. Painted walls may be washed off with a mild soap or detergent. They should be rinsed with clear water and dried with a clean cloth.

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Woodwork:

Painted and unfinished woodwork may be cleaned by warm, soapy water. Varnished woodwork may be cleaned with a mixture made of 1 quart of boiling water, 3 tablespoons of linseed oil, and 1 tablespoon of turpentine. After the surface has been cleaned with this mixture, it should be wiped dry.

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Windows:

The dust on windows can be removed easily by rubbing with disposable tissues. Window cleaner, or clear water to which a few drops of ammonia has been added, may be used when it is necessary to wash windows. Because cold weather can settle in so quickly, it is a wise plan to clean the windows early in the fall, late August or early September, while weather permits.

FOOD STORAGE

In caring for any foods, a few simple general rules should be observed:

- 1. Keep all food covered and away from dust.
- 2. Store perishable foods in a cool place, preferably in a refrigerator.
- 3. Protect all food from flies, roaches, ants, etc.
- 4. Keep all staples in clean, covered cans or jars in a cool place.
- 5. Label all cans and jars appropriately.
- 6. Make them accessible.
- 7. Use a neat and orderly arrangement.

Storage space

The storage space may be a separate room in a part of the building away from the kitchen. Sometimes it is a closet in or near the kitchen, or it may be a part of the kitchen itself. Regardless of the size of the space and its location, it must be kept clean and in good order, as well as adequately lighted. The following rules should be followed:

- 1. Arrange for a regular cleaning schedule.
- 2. Keep all items neatly arranged, for best convenience.
- 3. See that any food spilled on the floor or shelves is cleaned up immediately.
- 4. Replace container covers immediately.
- 5. Inspect the rooms weekly or oftener for signs of spoilage and vermin.

Note: In emergency, flour containing weevils can be used after sifting. Possible harmful effects will be eliminated by the cooking temperature.

6. If canned foods show signs of spoilage (bulged ends of the cans, leaking can, peculiar odor, liquid spurting out when can is opened, mushy, slimy, mouldy, or soft appearance of the food, heavy rust), remove from the storage area **and burn to make sure that animals and people will not eat them.**

   Canned food which is suspected of spoilage should never be tasted.

7. Put arrival date on supplies before storing them.

8. Leave unused cans in cartons as a precaution against freezing.

9. Use up all the old stock of foods before starting on the new supply.

10. Store all packaged goods, whether in bags or cartons, on slotted platforms at least six inches above the floor in order to prevent absorption of moisture.

11. If labels fall off, use marker ink to write information directly on can or cover.

12. Screen windows and vents in order to keep out insects and animals. Keep the screens in good repair.

The handbook, GUIDE FOR WAREHOUSING U. S. DEPARTMENT OF AGRICULTURE-DONATED-FOODS, gives information in detail regarding the storage of individual items. This material will be found on pages 9, 10, and 11.

Additional Information On Storing Canned Foods:

From RUTGERS' FOOD SAVER, Rutgers
University Press. New Brunswick, N. J.

"When the seal is tight and a vacuum is present in tin containers, the ends are flat or slightly concave—when the container is open there is a slight hiss caused by air rushing into the container to replace the vacuum.

"Dented, rusted, water-soaked or smoke-stained cans or jars of foods are usable if the seal is still perfect and rusting has not caused holes to develop through which spoilage agents can enter.

"Accidental freezing of canned goods will result in some softening or mushiness in the product, but freezing alone does not bring about any harmful changes. Food will expand when frozen, like water in a pipe, and if the container is glass the jar may break (or force the seal loose). If the jar does not break and the seal is not forced loose it is all right to use or hold the food as if it had not been frozen. Tin containers are more flexible and will bulge at the ends when frozen; thus the seal is less likely to weaken and to allow spoilage agents to enter."

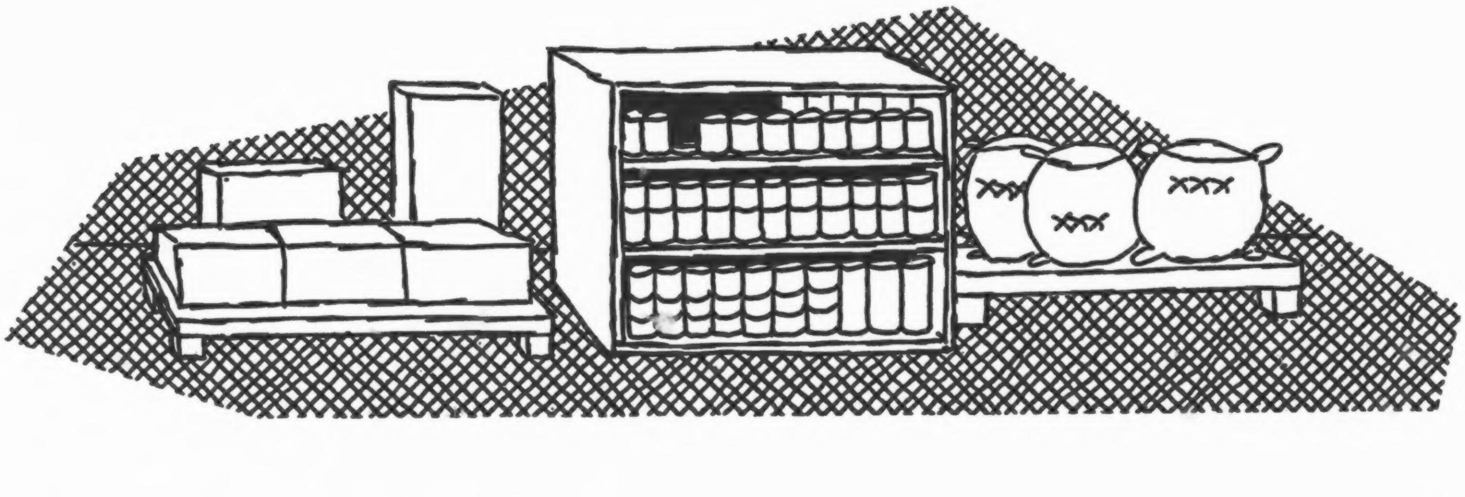
Handling Canned Foods:

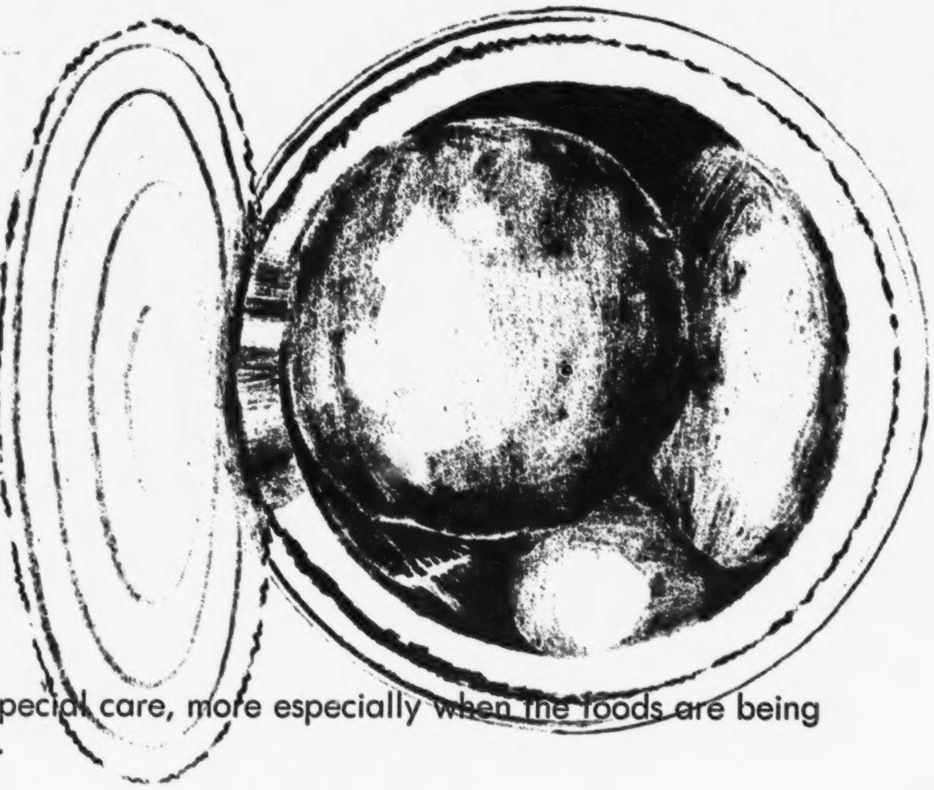
● 1. Storage temperature for canned goods: 45°-50° F.
Always store away from heat.
Prevent freezing.

● 2. Check for vacuum when opening.

● 3. Check for broken seal and rust holes on soiled or damaged containers.

● 4. Canned fish products — if can bulges or cover is loose, DISCARD.





Careful storage of certain foods:

Certain foods need special care, more especially when the foods are being served to a large group.

Milk:

Dry milk

Every precaution should be taken to assure use of safe supplies, equipment and methods in the reconstitution of dry milk. Dry milk used as a beverage or other food should be covered, refrigerated and handled with the same care as fresh milk. It is desirable to pasteurize or heat treat the reconstituted milk. IN INSTANCE WHERE PASTEURIZATION AND REFRIGERATION ARE NOT PRACTICABLE, IT SHALL BE MIXED ONLY IN QUANTITIES THAT CAN BE USED AT ONCE AND SHALL BE USED WITHIN ONE HOUR AFTER RECONSTITUTION TO PREVENT GROWTH OF MICROORGANISMS.

Milk absorbs odors readily, therefore, it should be kept away from strong flavored foods such as onions, turnips, fish, and cabbage. Dried milk solids should be kept in cold dry storage, preferably 32° to 50° F., though dry storage with temperatures between 50° and 70° is satisfactory. Like liquid milk, dry milk will absorb odors and should be separated from foods that give off odors. If it is exposed to the air, it absorbs moisture and becomes lumpy. Cover the container tightly after opening.

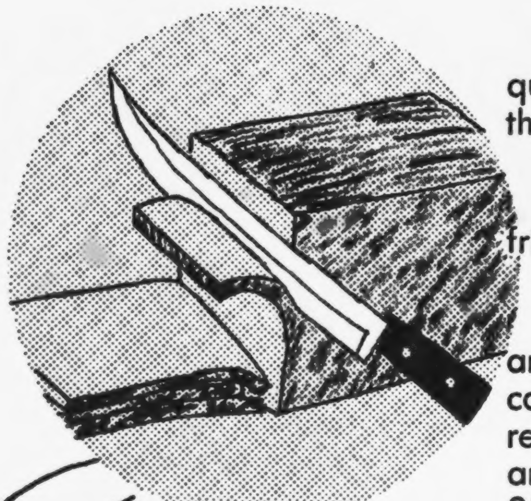
Remember, keep milk clean, keep it covered, and keep it cool.

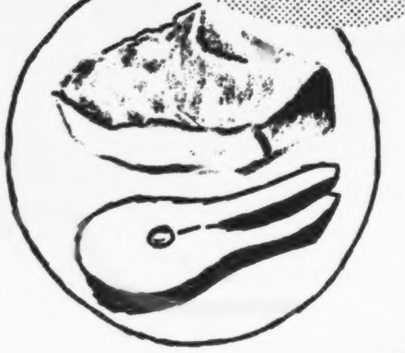
Evaporated milk

Evaporated milk should be kept in cool storage and protected from freezing. Turn the cases over at least once a month (oftener, if possible) to keep the milk from settling and separating. If the milk does settle and large curds form, it is not spoiled, though it may not be appetizing to drink. It can be reconstituted by beating with a wire whip or rotary beater and then be used in cooking. Opened cans of evaporated milk must be stored in the refrigerator or cold storage room. Cover the tops with aluminum foil or waxed paper held in place with a rubber band.

Meat and Fish

Meat and fish should be kept in a refrigerator and brought out only when being prepared for cooking. It should be wiped with a damp cloth before being cooked. If the meat has been ground, it should be used soon thereafter.





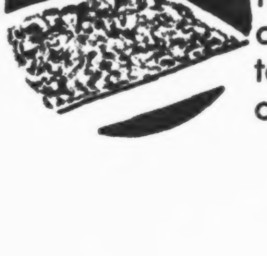
Cut up, chopped, or sliced cooked meats spoil more quickly than meat in a large piece, so it is best to prepare them just before using.

Meat or fish sandwiches must be kept very cold or refrigerated right up to the time they are served.

In storing cooked meats or dishes in which other foods are combined with meat, such as soups, broths, stews, and casseroles, quick cooling is imperative. Shortly after being removed from the stove, the container should be covered and placed in the refrigerator or a cold place, not above 35° F. The food should be used in a day or two.

Never leave cooked meat out of the refrigerator over two hours.

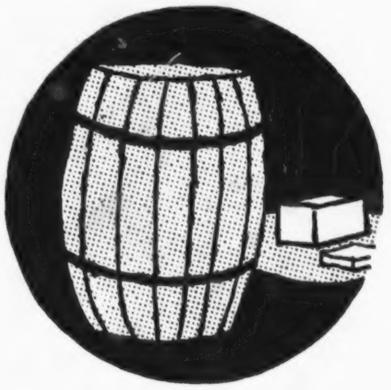
In the case of canned meats, **read the label on the can.** If the label does not indicate, "Keep in the refrigerator," the can may safely be kept on the shelf in cool dry storage, 50° to 70° F.



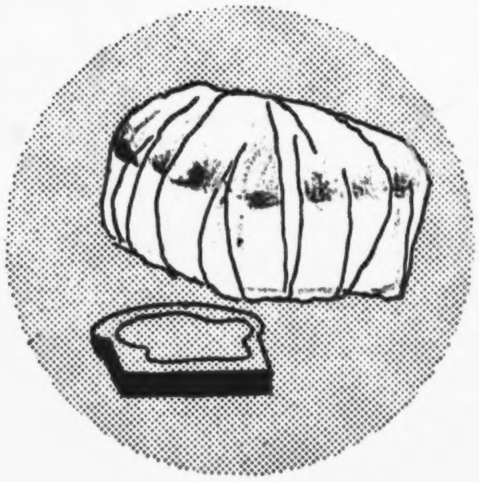
Protein foods should be stored in a shallow pan so that food may cool more quickly and so prevent the growth of bacteria which can cause food poisoning. Foods referred to include: eggs, meat, fish, milk, or such combinations of these as chicken salads and custards.

Butter

Butter should be kept clean, covered, and in a cool place. Barrels of butter should be stored so that the brine will not freeze, break the keg, and cause the butter to become rancid. If the brine evaporates, replenish the supply. To make it, add enough salt to water to float a small potato.



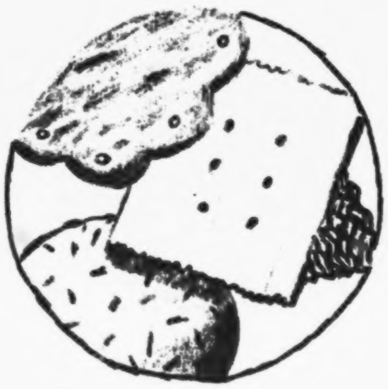
Bread



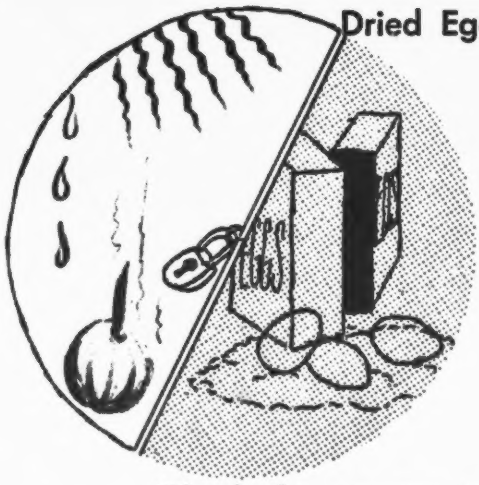
Bread and other bakery goods can be frozen and kept for a period of several weeks. Cool the bread and wrap it airtight before freezing. It will retain its moisture and not mold. If it is not necessary to store bread for any length of time, wrap it in waxed paper and store it in a ventilated bread box or a tin container that has a few holes in the top or sides to let in air. Bread stored in the refrigerator will stale more rapidly than that stored in a bread box. At freezer temperatures, however, breads wrapped in moisture-vapor proof wrappings stale less rapidly than at room temperature.

Crackers

Crackers should be kept in a cool dry place and away from foods with strong odors. They may be crisped by warming in the oven at 300° F.



Dried Eggs



Dried eggs should always be kept cool and dry at temperatures between 32° and 50° F. If it is not possible to keep them at this refrigerated temperature, be sure that they are away from heat, moisture, light, and strong flavored foods. They will absorb off-flavors which may be noticeable when the eggs are used. Keep tightly covered when not in use.

(Check the storage table on pages 9, 10, and 11 in the pamphlet, GUIDE FOR WAREHOUSING U. S. DEPARTMENT OF AGRICULTURE-DONATED FOODS.)

DRY STORAGE CHECK SHEET*

THE SPACE:

Is it well ventilated?

Is it cool and dry?

Is it free from insects and rodents?

Is it clean, orderly, and well managed?

THE EQUIPMENT:

Are these commodities rodent and bug free?

Is there a thermometer?

Are strong shelves and floor racks provided?

Are metal cans on casters, or mobile units provided for storage of flour, rice, beans, sugar and corn meal?

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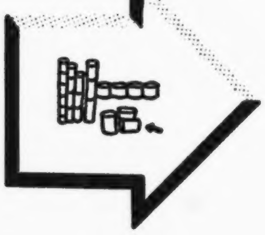
* **FOOD TOPICS, Food Services, April 1960, Bul. II, No. 8, Gallup Area**

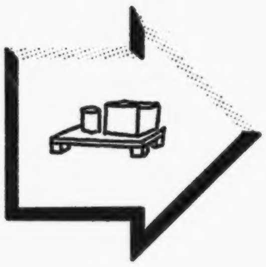
Dry Storage Check Sheet (continued)*

THE ARRANGEMENT AND ORGANIZATION:

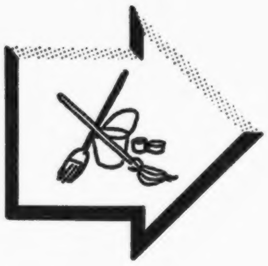
Are "like foods" stacked together?



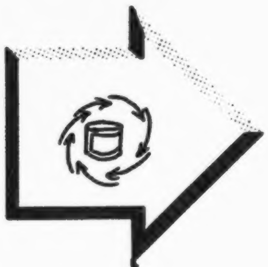
Are oldest stocks placed out front and used first?



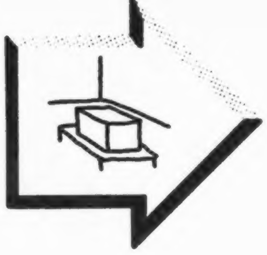
Are foods stored off the floor in areas of good circulation?



Are cleaning supplies, insecticides, brooms and mops stored in a special area away from the food storage area?



Are foods placed so that air can circulate around them? For drying? Coolness and cleanliness?



Are foods placed away from the wall?

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* See footnote, page 33

Dry Storage Check Sheet (continued)*

THE MANAGEMENT:

✱ Do work schedules and work habits include organization for one trip to the storeroom?

✱ Is storeroom cleaned and straightened regularly?

❀ Is storeroom sanitation, management, and organization assigned to one person?

✱ Is multi-purpose equipment used when available and practical?

REFRIGERATOR STORAGE:

The cooler or refrigerator:

✱ Is temperature maintained at 35° - 45° F.?

✱ Is your refrigerator space adequate?

✱ Is the refrigerator level?

✱ Is the refrigerator cleaned regularly?

✱ Is the refrigerator maintained according to the manufacturer's instructions?

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* See footnote, page 33

Dry Storage Check Sheet (continued)*

THE EQUIPMENT AND ARRANGEMENT:

⇨ Is a thermometer provided?

⇨ Is food properly prepared for the refrigerator?

➡ Are foods so placed that air can circulate around them?

⇨ Are shelves overloaded?

⇨ Are cooked foods and meat covered?

⇨ Are strong-flavored foods stored in covered containers?

● Does every inch of refrigerator space count, but without overcrowding?

● Are hot foods cooled quickly before storing?

● Are cooked foods cooled quickly before storing?

● Are cooked foods stored in shallow pans in small quantities?

➡ Are foods organized in the refrigerator?

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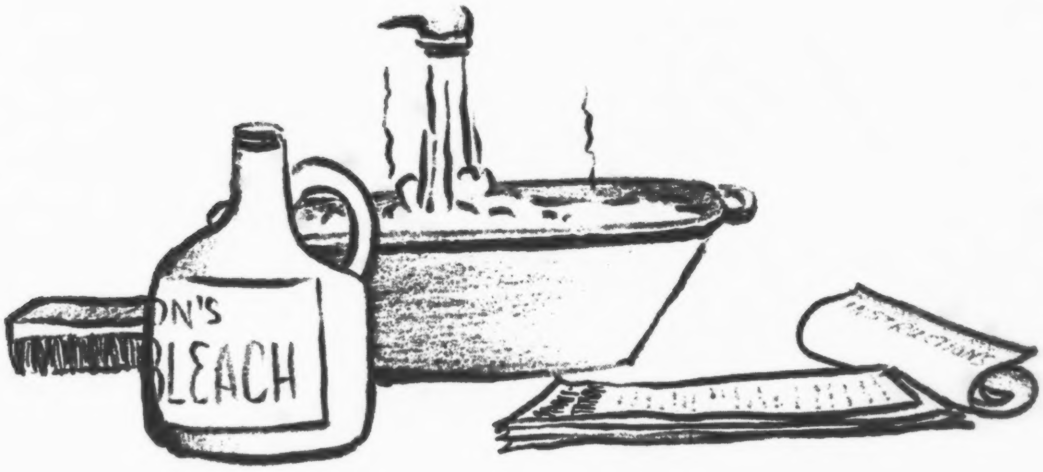
* See footnote, page 33



SANITATION

There is no substitute for proper sanitation, and its importance should be impressed upon those who help with the school lunch program. Food handlers must be made to realize the great responsibility involved in guarding the children from any communicable disease which can be transmitted through food and drink.

No amount of new or expensive equipment can take the place of good, strict, daily observance of the rules of sanitation. The most modern products, together with the best facilities, will not insure sanitation unless they are properly used and maintained.

In some villages there is a Sanitation Aide who has been trained by the Alaska Division of Health. Teachers are urged to make use of his services whenever possible. The guidebook prepared by the Division of Health for the use of Sanitation Aides can be of help also.

The Bethel Committee, in making its report, requested information concerning sanitation and health from the Alaska Department of Health and Welfare. In answer to this Mr. John R. Kuhn, Sanitation Aide Supervisor, Division of Sanitation and Engineering, submitted a very extensive summary of topics which he felt was necessary for consideration especially in view of the problems and limitations of the school kitchens.

His summary dated, March 18, 1960 follows:

"Water:

It is important that the personnel responsible for water storage recognize and accept the following facts:

ALL SURFACE WATER SUPPLIES SUCH AS LAKES, PONDS, STREAMS, ICE, ETC., ARE ALMOST INVARIABLY CONTAMINATED, MUST BE REGARDED AS SUCH AND MUST BE ADEQUATELY TREATED TO RENDER THEM SAFE.

Chlorination is a proven method for the treatment of relatively clean water of questionable quality and is the method of choice of these stations. The procedure outlined below is a simple field or emergency technique and can readily be established as a routine practice at each school. It should be mandatory henceforth that each batch of ice or water collected be adequately treated. Commercial chlorine bearing compounds are acceptable for this purpose, either in liquid or powder form. Capacity of storage facilities at the respective schools should be computed (7.48 gallons/cu. ft.) and proper dosages established for each installation as follows:

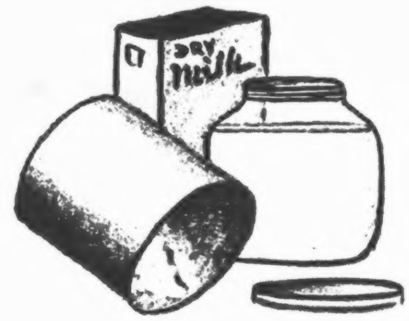
If calcium hypochlorite (HTH, Perchloron powder, 70% available chlorine) is used, a liquid stock solution should be prepared (2 heaping tablespoons or 1 oz. to 1 qt. of water). Use a glass jar, porcelain bowl, or other non-reactive container, prepare a paste with a little water, then dissolve the paste in a quart of water. Allow the solution to settle and then use the clear liquid without agitating. The sediment has no value. This stock solution deteriorates with age and should be used within a week of its preparation. This stock solution should be added to the stored water in the ratio of 1 qt./1000 gallons. If liquid bleach, (Purex, Clorox, Don's Bleach, etc.), is used, it should be added full strength in the ratio of 1 pt./1000 gallons. Fractional amounts can be readily estimated. Thoroughly mix and allow to stand 30 minutes before using. Due care should be exercised in handling chlorine preparations—avoid contact with eyes, skin, etc. Label and store properly.

All schools should provide drinking water for the students. Where water cooler type of dispensers are used, these should be thoroughly cleaned each month. Only water that has been disinfected with chlorine should be used.

CHLORINATION CHART

Gallons of Water	3.5% Chlorine Solution (Clorox-Purex)		1% Chlorine Solution	
	Clear Water	Cloudy Water	Clear Water	Cloudy Water
5	1/4 teaspoon	1/2 teaspoon	3/4 teaspoon	2 teaspoons
10	1/2 "	1 "	1-1/2 "	4 "
20	3/4 "	1-1/2 "	2-1/4 "	6 "
30	1 "	2 "	3 "	8 "
40	1-1/4 "	2-1/2 "	3-3/4 "	10 "
50	1-1/2 "	3 "	4-1/2 "	12 "

Milk:

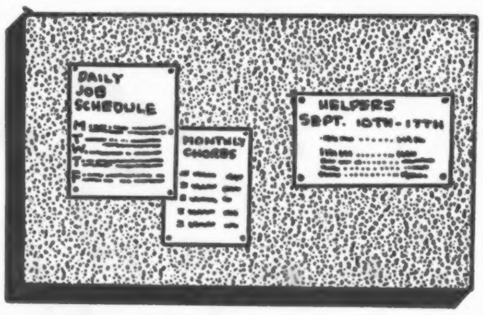


Milk preparations should be properly handled at all times. If powdered milk is reconstituted, it must be prepared in suitably cleaned vessels, kept covered and cool, and mixed with safe water within an hour of the time to be used.

Supervision:

Proper training and supervision of food handlers should be maintained with emphasis placed on personal hygiene, food and dish handling techniques, and personal safety. No person showing evidence of illness should be permitted to participate.

Maintenance:

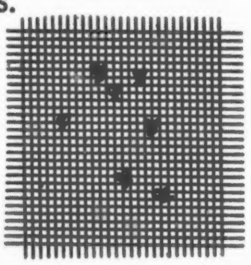


A definite housekeeping routine should be established and adhered to.

Food Service Area:

In those older schools with obviously unsatisfactory food service areas every effort should be made to renovate these areas to provide at least these minimum necessities:

- Ample light.
- Enough ventilation to eliminate condensation.
- Light colored, easily cleaned, smooth, washable walls, ceilings, and surfaces.
- A water-impervious covering on floors, counter tops, etc.
- All painted surfaces should be refinished as often as may be necessary to maintain a smooth, clean surface, free from cracks and holes.

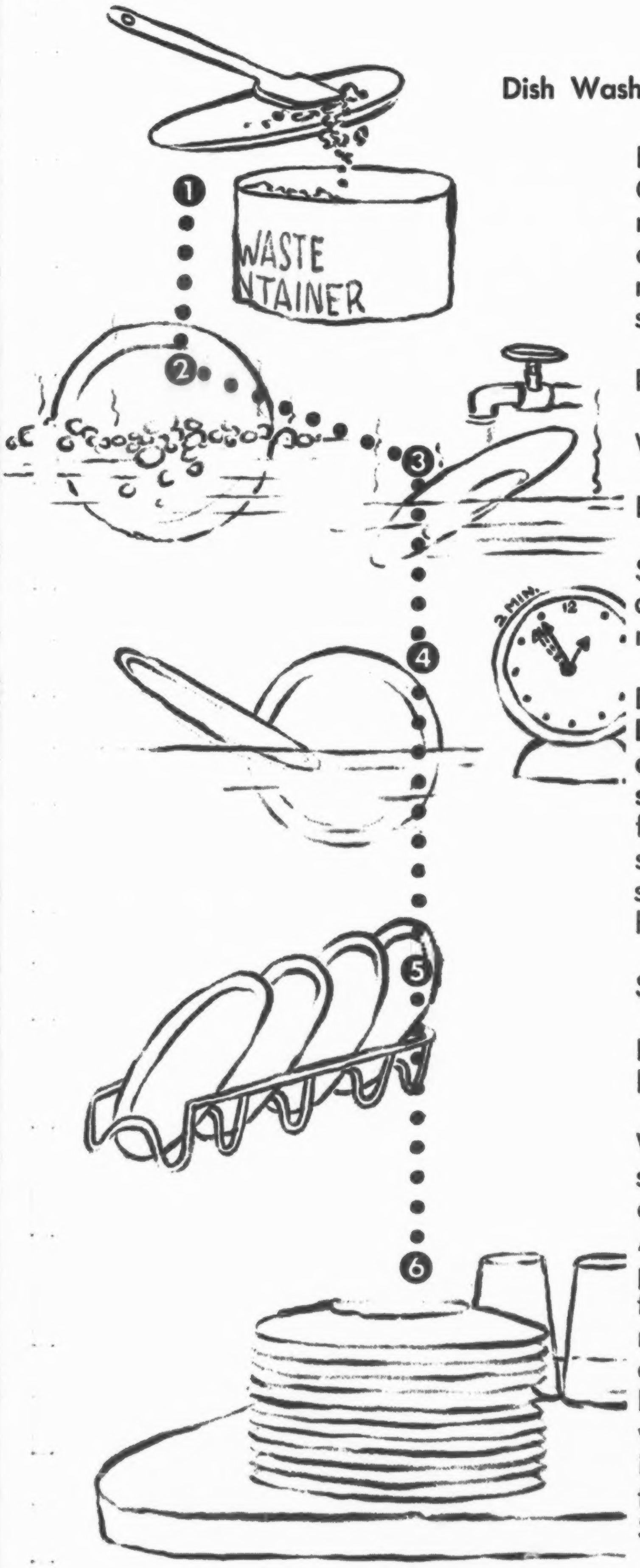


Screens:

Screens should be provided throughout the fly season.

Storage:

The food preparation area should be restricted to such use. "Other" storage should be kept elsewhere—clothing, outer garments, janitorial supplies, mops, buckets, etc.



Dish Washing:

Despite the limited volume of water available in some areas, ONLY recommended dishwashing procedures should be permitted in the school lunch program. Where adequate sink compartments are not available supplementary dishpans may be used but the recommended method and sequence should be observed as follows:

Pre-scrape dishes.

Wash in hot water and detergent.

Rinse in clean, hot water.

Sanitize by immersion in a third compartment containing a chlorine sanitizing agent.* If a compartmented sink is not provided, a washtub may be used for rinsing.

Dishes should be air dried in rack. **Dipping quickly in chlorine solution and then rinsing immediately in fresh water or wiping with towel makes the chlorine sanitizing process worthless.** It takes at least **two minutes** for it to kill germs. Complaints about taste or odor are seldom received, and, under no circumstances, can the small amount of chlorine left on utensils do anybody any harm.

Store, inverted in a dust free area.

In the event that toweling becomes a MUST, only absolutely clean towels should be used.

When it is necessary to wash dishes during or between serving periods, the same procedure should be followed as is used for dishwashing after the whole lunch is served. As far as possible, the dishes and pots and pans used in preparing the meal should be washed and put away before the lunch is served. If not washed, soak and stack them ready for washing. Pans and dishes used for eggs, milk, cheese, meat, or starch foods are soaked in cold water. Dishes and pans used for sugar or syrup are soaked in hot water. Wipe greasy dishes with paper before soaking in hot water. Before washing, it is a good plan to scrape the dishes and stack them according to size and shape. Separate the silverware."

*The stock solution chlorine mentioned in the discussion on water purification will be quite adequate for this purpose if used in suitable proportions:

Purex, etc. — 1/2 oz. per gallon hot water.
Stock solution prepared from powder — 1 oz. per gallon hot water.

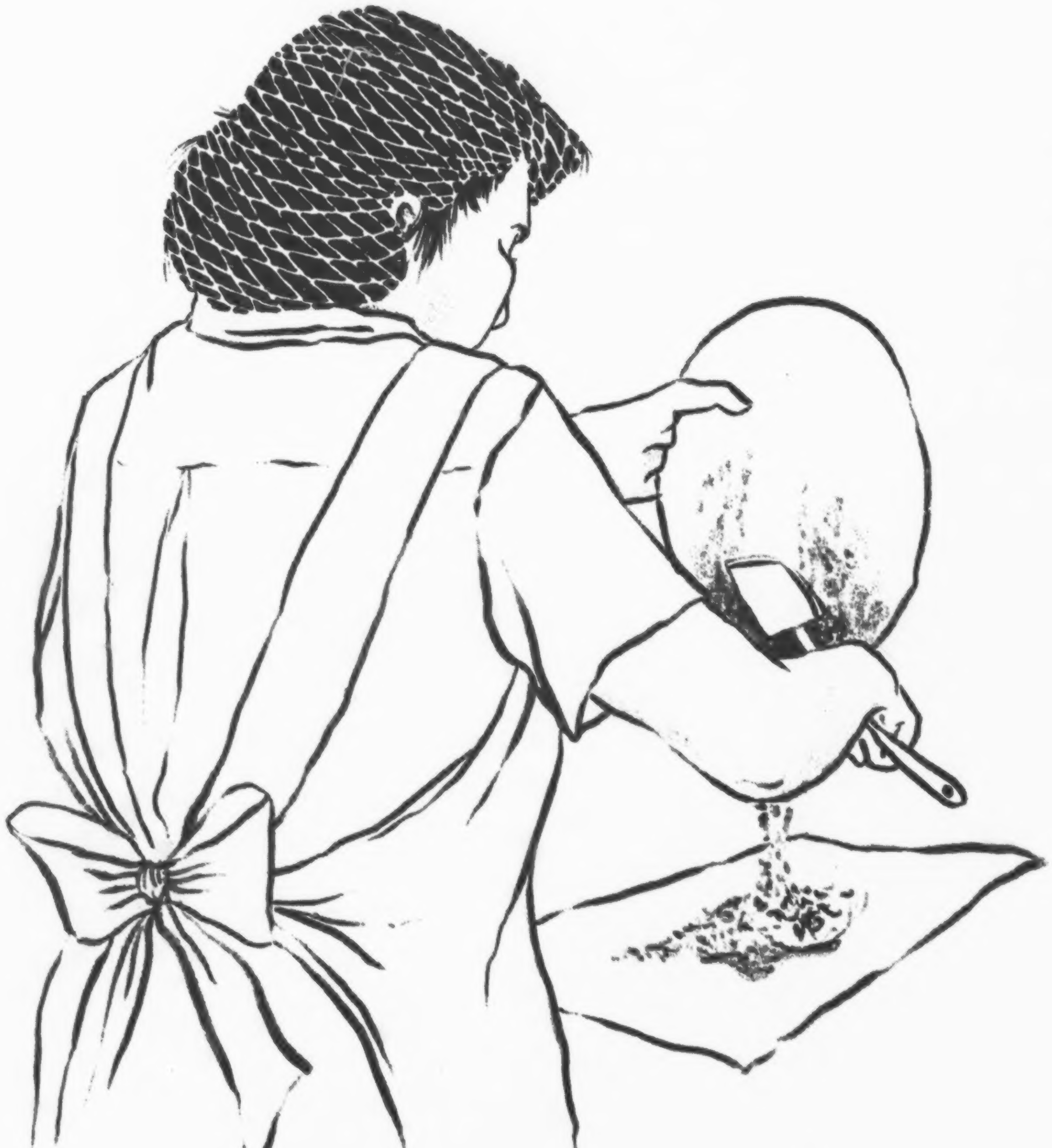
Waste Disposal:

The Bethel Committee suggests that #10 cans or surplus coffee cans be utilized in collecting waste food from cooking utensils and dishes. These may then be disposed of by the janitor.

Empty cans should be rinsed and flattened before being taken to disposal pit.

Burn empty cardboard cartons and packages in an incinerator using proper safety precautions.

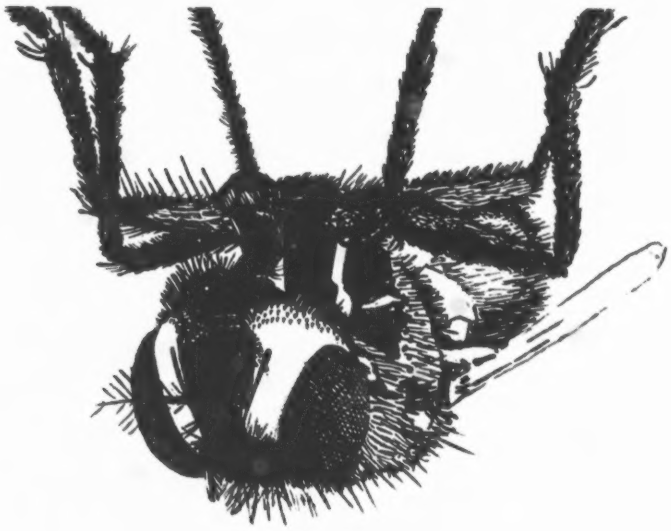
For further suggestions, consult your local Sanitation Aide or write to the Alaska Department of Health and Welfare, Division of Sanitation and Engineering, Territorial Building, Juneau, Alaska.



INSECT AND PEST CONTROL

The control of insects is a task which cannot be taken lightly. If insects were not controlled they would destroy the human race. It has been estimated that one pair of flies could have, between January and May, 191,010,000,000,000,000,000 descendants, if all were to live. This number is awesome enough, but it is even more so when further statistics tell us that these would cover the earth to a depth of forty-seven feet. True, this is a hypothetical situation, but he fact remains that insects multiply very rapidly, and it is up to us to take every precaution to keep down their numbers.

Insects need a place to breed; if we remove this, we eliminate the source of the trouble. Dust-filled cracks and holes, dark, damp areas under sinks and around pipes, wet mops and brushes, open garbage containers, stagnant water, trash and manure piles, unsanitary privies—all these are inviting areas to flies and other insects. Cleanliness is the best defense against most household posts.

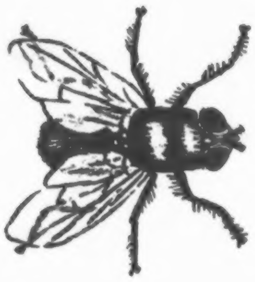


Preventive measures:

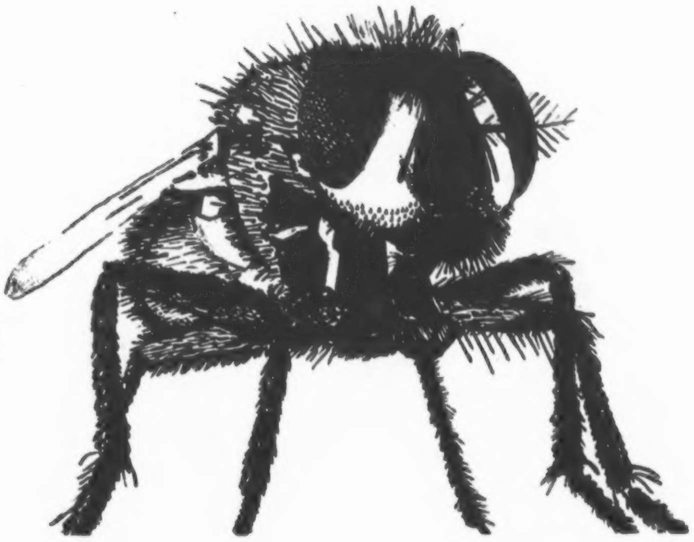
Preventive measures should always be observed. Buildings should be constructed to keep out vermin, then properly maintained by keeping closed the means of entrance (holes in the foundation, broken windows, cracks around pipes, door and ventilators, between bricks and other places). Unless the entry ways are closed, it will be impossible to eradicate the pests because new ones will come in as the old ones are killed off. Cracks in floors can be filled with wood-filler or plastic wood, covered with molding or tin; cracks in walls can be covered with spackle or plaster of Paris. A coat or two of paint will finish the job. Damp areas should be dried, mops and brushes rinsed thoroughly and dried before storing, garbage containers disinfected and covered, stagnant water drained or covered with kerosene or other oil (1 ounce to every square foot of surface), and trash and manure piles and privies treated with lime.

The odors of food and garbage attract many kinds of vermin which are seeking food. Unfavorable weather conditions drive mice and rats indoors to find warmth and shelter. Flies want the protection afforded by heated buildings. At temperatures below fifty degrees, almost all household pests become dormant. This may lead one to think that there are none. However, when the temperature becomes warmer, the adult insects will move and fly, and eggs will hatch.

FLIES



A 5% DDT spray used in a room will clear flies, and leave a residue which will be deadly for several weeks to flies that light on it. Before spraying in the kitchen be sure to put away all dishes, utensils, towels, and food. Wash table tops and work surfaces before using them again. Sweep up and burn dead flies. Screen all doors and windows; keep screens closed and mended.



ROACHES

Roaches carry disease and pollute anything with which they come in contact. They have an offensive odor which clings to anything they have touched until washed off with soap and hot water. Being broad and flat, they can conceal themselves in cracks in floors and baseboards. During the day they do not appear except when disturbed, so they may be present without the fact being realized.

Keep drainboards, linoleum counter tops, and cupboards as dry as possible. Sprinkle borax over places where the insects collect. This is not as effective as using poisonous powders, but it is much safer. If the number of roaches is small, the borax should be satisfactory.

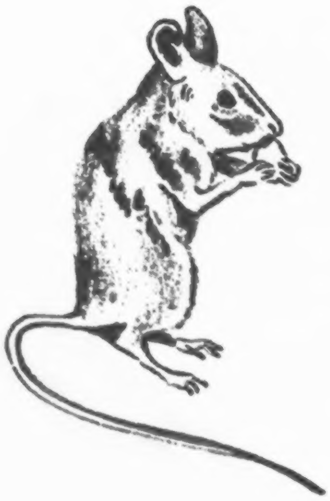
COMMERCIAL EXTERMINATORS WHICH ARE POISONOUS SHOULD BE USED ACCORDING TO THE MANUFACTURER'S DIRECTIONS AND UNDER THE SUPERVISION OF THE PERSON IN CHARGE.

These poisons cause the roaches to die rapidly when sprayed or sprinkled on them. If they run over it, they carry some back to their hiding places, and in cleaning their bodies, get some into their stomachs where it acts as a stomach poison.

RATS AND MICE

Damage done by rats and mice amounts to millions of dollars annually. This damage affects food and utensils; disease germs are transmitted to food by their excreta, liquids issued from their mouths, and the dirt and poisons carried on their feet and bodies.

The presence of rats and mice can be detected by a characteristic odor. At the first signs, start an eradication program and continue until the situation is under control. Rat or mouse traps should be located in runways where there is no danger of children or pets being injured by them. Fasten the traps with wire or chain so that rats will not carry them away.



IF POISONS ARE USED, IT SHOULD BE DONE ONLY UNDER THE SUPERVISION OF THE PERSON IN CHARGE OF THE STATION. Extreme caution should be exercised because of the danger to human beings and domestic animals.

The Alaska Division of Health and Welfare recommends certain insecticides and rodenticides. These, together with instructions for use, are included in the charts which follow. The Department stressed that these materials be used only as indicated, that directions be followed explicitly, and that you **READ THE LABEL.**

Insecticides

INSECTICIDES	INSECTS IT WILL KILL	WHERE TO USE IT	REMARKS
D. D. T.	Flies	Around door sills, window frames, upon screens, outside of garbage cans, ceilings of rooms.	7% D.D.T. mixed with water is a good insecticide for flies.
	Lice	Cracks of mattresses, the hair, where clothing hangs; dust clothing not washed.	Use 10% D.D.T. dust.
	Fleas	Dust clothing, bedding, hair	Use 5% D.D.T. dust.
	Bed bugs	Dust clothing, bedding, furniture, spray walls, cracks, moldings.	Use 10% dust.
CHLORDANE	Cockroaches	Under drains, in cabinets, in drawers around sinks, along baseboards.	Use 5% liquid—paint on with brush—do not spray.
	Ants	Sprinkle chlordane dust on ant hills and where ants travel.	Use 5% powder—not liquid—VERY POISONOUS.
LINDANE	Ants	Dust runs or hills	VERY POISONOUS—use 5% either liquid or dust.
	Cockroaches	Paint on like chlordane.	
	Bees	Liquid spray	
	Wasps	Liquid spray	
	Hornets	Liquid spray	
MALATHION	Flies	Spray on garbage dumps.	Dilute with molasses or sugar and water.
PYRETHRUM (Flit, Flytox, etc.)	Moths Mosquitos, etc.	Spray in houses, point spray up, let mist settle down.	Kills insects on contact; is a space spray—harmless to people.

Rodenticides

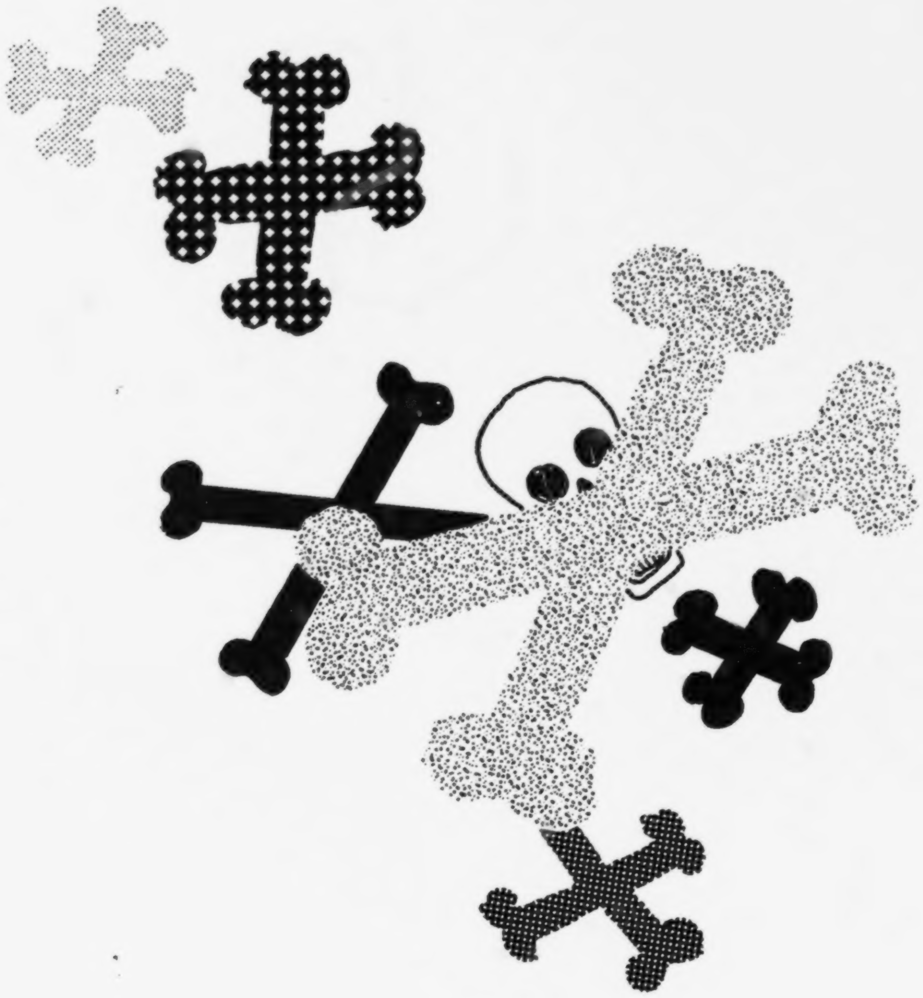
RODENTICIDE	KIND OF POISON	HOW TO USE IT
WARFARIN	Dicumarol causes internal bleeding.	Put poison in bait boxes where other animals cannot get to it. Can be used in garbage dumps, if protected from rain, snow, etc. Safe to use if handled with care.
FORTIFIED STANDARDIZED RED SQUILL	Poison kills rats because they cannot vomit.	Mix bait with hamburger, fish, or other ground meat. Wrap in paper in small amounts, and put where rats live or run. Safest poison to use. Will not kill other animals except chickens, etc.
CRAWLEY'S LICORICE POISON	Arsenic trioxide kills all animals.	Pour Coca Cola bottle caps full of poison. Put in bait boxes where rats or mice run. Do not use around food. Lock bait boxes.
CYANOGAS "A" DUST	Cyanide	Use only in rat holes. Do not use indoors or near buildings where people live.

Rodenticides are poisons used to kill rats and mice. Many of them will also kill people and should be used with the greatest care.

Order insecticides and rodenticides through your District Office.

THE SPREAD OF FOOD-BORNE DISEASE

GERMS CAUSING THESE DISEASES	REACH CONSUMER THROUGH	WHAT YOU CAN DO TO STOP IT
FOOD POISONING	Food contaminated by unwashed foods, unrefrigerated perishables, such as milk, fish, eggs, meat, poultry or combinations of these foods contaminated by rodents.	Wash hands frequently. Keep food cold (below 50° F.). Help control rodents.
TYPHOID	Water, milk at source. Food contaminated by unwashed hands or by flies.	Insure safe water. Purchase and serve only approved food products. Wash hands. Control flies.
DYSENTERY	Water contaminated at source. Defective plumbing. Food contamination by unwashed hands or by flies.	Use approved water supply. Check faulty plumbing, wash hands. Control flies.
TRICHINOSIS	Uncooked pork, bear meat, beluga, walrus and seal.	Cook all pork and pork products at not less than 137° F. Also bear meat, beluga, walrus and seal must be thoroughly cooked.
BOTULISM	Home-canned foods improperly prepared; improperly handled salmon eggs and whale flippers.	Serve canned food properly prepared.
DIPHTHERIA	Dishes or silverware contaminated by the carrier—sneezing, coughing, spitting.	Approved dishwashing procedures. Good personal hygiene.



FOOD POISONING

The prevalence of food poisoning in Alaska is alarming. According to the June, 1960 issue of the Alaska Division of Health Bulletin, Alaska's average death rate from all poisoning was 4.1 per 100,000 population as compared with 1.6 in the rest of the nation.

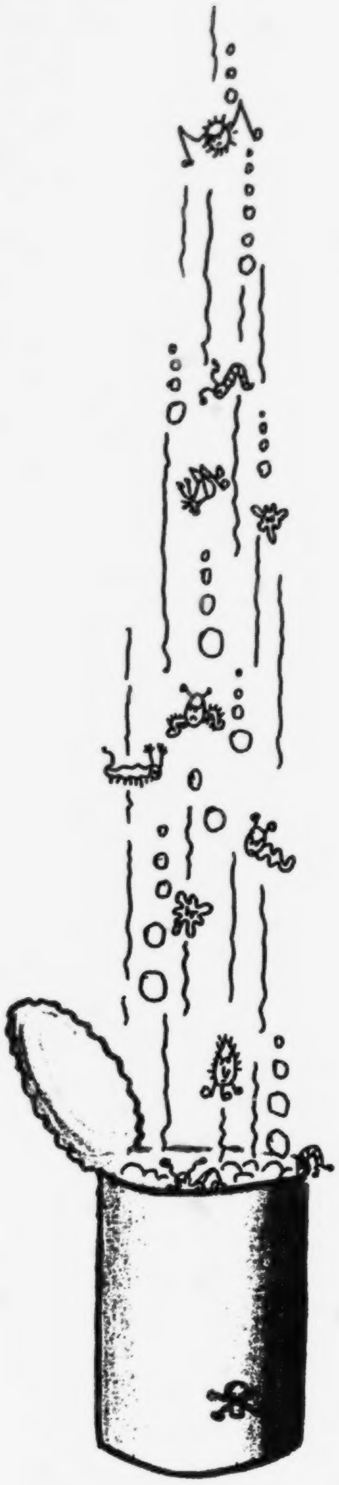
Food spoils easily and spoiled food causes sickness.

NO FOOD SHOULD EVER BE SERVED IF THERE IS ANY QUESTION ABOUT ITS CONDITION.

If food seems even only a little tainted, it should not be used. It may spoil without changing its appearance and flavor to any great extent.

Botulism

Botulism is the most dangerous type of food spoilage, not only because it is so often fatal, but also because it gives no identifying sign. The spores of the botulinus bacteria are extremely heat resistant and to safeguard against spoilage due to them, non-acid food, (all foods except acid fruits and tomatoes) should be processed in a pressure chamber.



Putrefaction

Other types of spoilage to watch for includes putrefaction which produces gas, a bad odor, and the darkening and softening of the product.

Flat-sour

Flat-sour is produced by a type of bacteria that produces acid **without** gas and consequently must be noticed by the slight odor and a cloudiness of the liquid. String beans, corn, peas are the products most likely to be subject to this kind of spoilage.

Fermentation

Fermentation can be identified by bubbles of gas in the jar and a sour odor. It may cause the ends of tin cans to bulge.

Instruction about food handling, the dangers of food poisoning, the reminder to "keep hot foods hot and cold foods cold" (because some bacteria which cause illness flourish at room temperatures) should be included in both adult education classes and the training sessions for kitchen helpers.

Nutrition

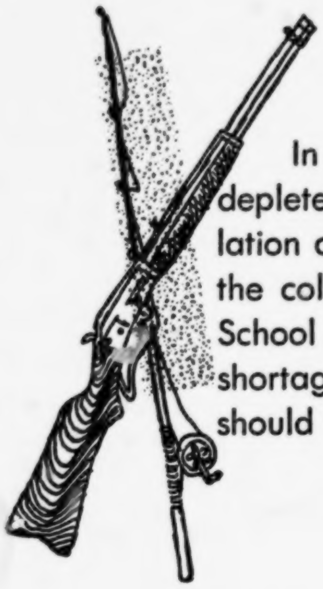
NUTRITIONAL NEEDS OF CHILDREN

The Bureau of Indian Affairs budgets to provide a full meal per child for the school year of 180 days, and supplies are requisitioned with this in mind. There is no question of how much is needed, or if it is needed, or for how long the program should continue — the policy is established. SCHOOLS THROUGHOUT THE FIFTY STATES ARE PROVIDING SCHOOL LUNCHES FOR THE ENTIRE SCHOOL YEAR; THERE IS EVERY REASON WHY WE SHOULD DO SO IN ALASKA. To quote Dr. Thomas Parran, "We are wasting our money trying to teach children with half-starved minds and bodies."

Nutritious food is necessary for a child's complete development. To get the maximum results from education, a child must be properly nourished and physically fit. The school lunch program improves children's diets and thus enriches their learning experiences.

The nutritional allowances recommended by the Food and Nutrition Board, National Research Council, are designed for the maintenance of good nutrition of healthy persons in the United States. The allowances are intended for persons normally active in a temperate climate. Most of our schools are located in villages where temperatures are extremely cold, reaching, in some cases, 50 to 60 degrees below zero. These extremely sub-zero temperatures may last for many weeks; the winds along the coast add to the cold. Because of the scarcity of fuel, the homes are not heated day and night, so it is important that the diet be substantial enough to meet the body needs for heat and energy as well as growth and development.

Many of the children are more than normally active during this period of extreme cold because they must help with the work at home. In some cases they travel for miles with their dog teams to get wood or ice for their families. They like to play and, when they do, they play hard. All of these activities bring about the necessity of providing a generous meal at school. The menu plan can remain the same as during other seasons, but if the amount of supplies on hand permit, the servings should be increased to make up for the greater need. The school lunch can provide a good foundation for an adequate diet.

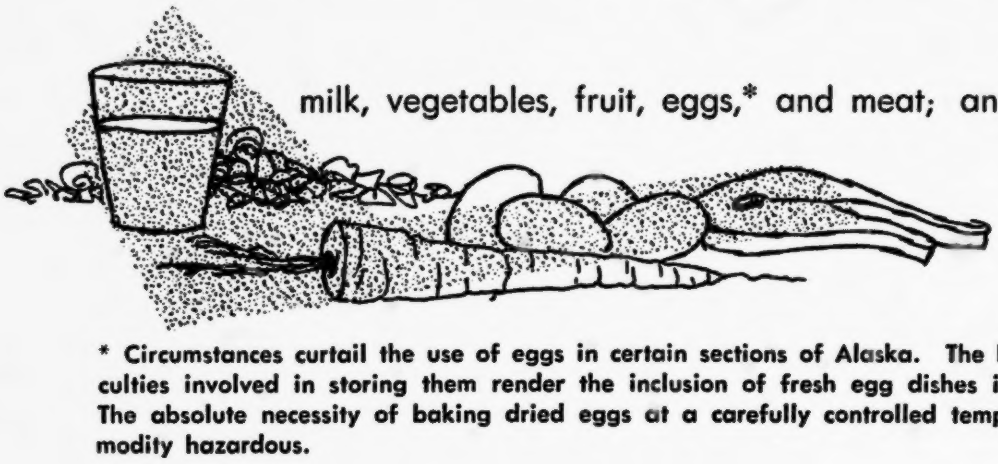


In some areas the local food supplies are marginal at most times, and often are depleted by some accident of nature, or by the low point in the animal and fish population cycle. The problem of obtaining adequate food for the family, especially during the cold winter months, frequently cannot be solved by the most energetic providers. School people should be sensitive to variations in local native food supplies. When shortages occur, as is usual in late winter and early spring, the school lunch, if possible, should furnish more than the recommended one-third of the day's nutritional allowance.

For many children, the lunch served at school is the main meal of the day — for some the only meal on which they can depend. It is important, therefore, that the meal consist of foods from as many of the food groups as possible and constitute a very substantial portion of the day's requirements. The home diet of many children contains many starch foods such as:

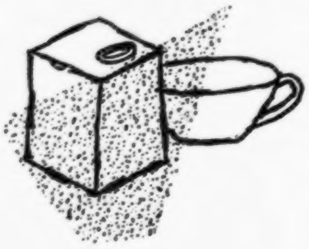
macaroni, spaghetti, white rice and sweets without a sufficient amount of the protective foods. Usually, the foods not available in sufficient amounts are:

milk, vegetables, fruit, eggs,* and meat; and fish are seasonally lacking.

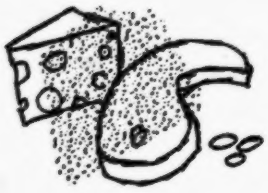


*** Circumstances curtail the use of eggs in certain sections of Alaska. The high cost of fresh eggs plus the difficulties involved in storing them render the inclusion of fresh egg dishes in the school lunch menu impractical. The absolute necessity of baking dried eggs at a carefully controlled temperature renders the use of this commodity hazardous.**

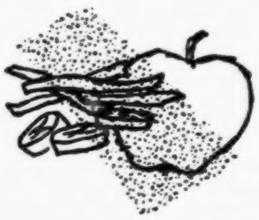
In the school lunch menus, therefore, these protective foods should be especially emphasized in order to make up for the deficiences of the meals served in the home. A meal for a complete, well-rounded school lunch will include the following foods:



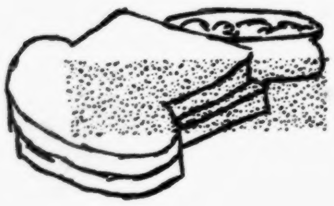
At least one pint of milk, as a beverage or in cooked dishes or both.



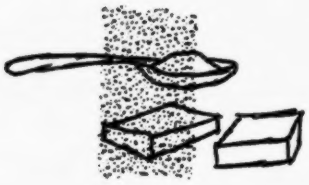
Two ounces of cooked, lean, or variety meats and fish, or 1/3 cup of dried eggs, or 1/2 cup of dried cooked beans, peas, or 2 ounces of cheese, or 2 tablespoons of peanut butter.



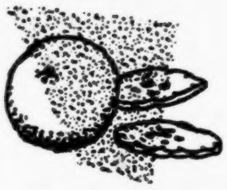
Three-fourths cup of vegetables and/or fruit.



Two slices enriched whole grain bread, or 1/2 cup reinforced or whole grain cereal, or a cereal such as rice or spaghetti.



One tablespoon of butter, or margarine fortified with Vitamin A.



Occasionally, a dessert consisting of fruit, or a simple sweet may be served.

In planning meals for school lunches the following points should be kept in mind:

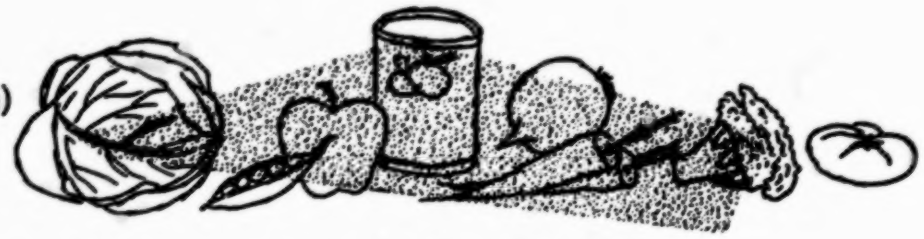
Milk:

Evaporated or dried skim milk may be used as a beverage or in cooked foods such as chowder, scalloped and creamed foods, and puddings. If no milk is served as a beverage, the meal should include two foods made with milk in order that each child may get the equivalent of a minimum of one pint of milk. Non-fat dried milk can be enriched by adding one-half cup extra skim milk solids to the amount ordinarily used in making one quart liquid milk. Non-fat milk solids should be used in bread making. They can also be used in hot cereals.

Of all factors of man's environment, none is more important to his welfare than food. Of all foods, none is more important than milk. Dr. E. V. McCollum, the revered Emeritus Professor, School of Hygiene and Public Health, Johns Hopkins University, made the following statement:

> "The people who have achieved — who have become large, strong, vigorous people — who have reduced their infant mortality — who have the best trades in the world — who have an appreciation of art, literature, and music — who are progressive in science and in every activity of the human intellect — are the people who have used liberally of milk and its products."

Vegetables or fruits (or both)



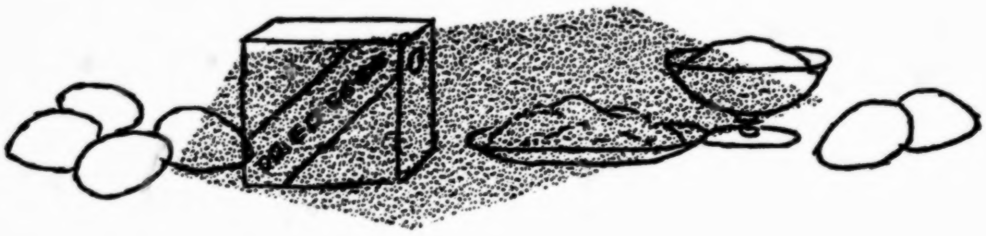
These may be of the fresh, canned, or dried varieties. Emphasis should be placed on the yellow or green leafy vegetables such as spinach and carrots. Tomatoes may also be used as a vegetable in the green and yellow group. The continued use of local plants known to the village people should be encouraged, when in season. Fruit and fruit juice, especially the citrus fruits and tomatoes, deserve special emphasis.

Lean meat and fish

PEANUT
BUTTER

Lean meat, fish, dried beans, peas, peanut butter, and cheese may form the basis for main dishes, soups, and sandwiches.

Eggs



Dried or fresh eggs may be used in many ways as in main dishes, custards, and other simple desserts; but the rule for using dried eggs in baked dishes only must be observed.

Note: The United States Department of Agriculture gives in its bulletin on dried eggs this precaution which should be observed by everyone:

> "Use the dried eggs ONLY IN THOROUGHLY COOKED DISHES, such as baked breads, long-cooked casseroles, and baked desserts. DO NOT USE the dried egg in egg-milk drinks, uncooked salad dressing, creamed puddings, soft custards, ice creams, omelets, or scrambled eggs when made on top of the stove." (See Type A Lunch Recipes D44 for baked scrambled eggs.)

Whole-Grain or enriched bread and other cereal products:

Whole-grain or enriched bread and other cereal products should be used. Among the whole-grain breads are cracked wheat, whole wheat, rye, corn meal, and oatmeal. When corn meal is used the yellow variety is preferable.

Quick cooking varieties of whole-grain cereals save time and fuel in preparation. They can be used in making hearty chowders and soups. Rice, egg noodles, macaroni or spaghetti may be used in soups and in combination with meats and/or vegetables to make substantial casseroles.

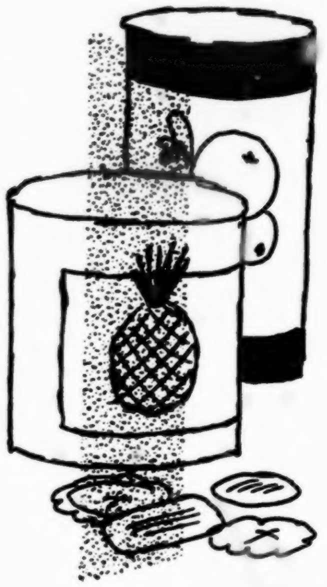
Butter or margarine fortified with Vitamin A:

Butter or fortified margarine should be used on breads or in food preparation.

Desserts:

Desserts, although not necessary, may be served occasionally. They may consist of:

fresh berries in season
canned or dried fruits
puddings
simple cakes
cookies



Dried fruits not only satisfy the child's appetite for sweets but add to the nutritive value of the lunch. Suggested fruits for the school lunch may be:

prunes
apricots
raisins

Good forms of sweetening for desserts are:

molasses
brown sugar
honey

Children enter school with well-established sets of eating habits. The school lunch provides an opportunity for developing and improving desirable practices and for correcting undesirable practices.

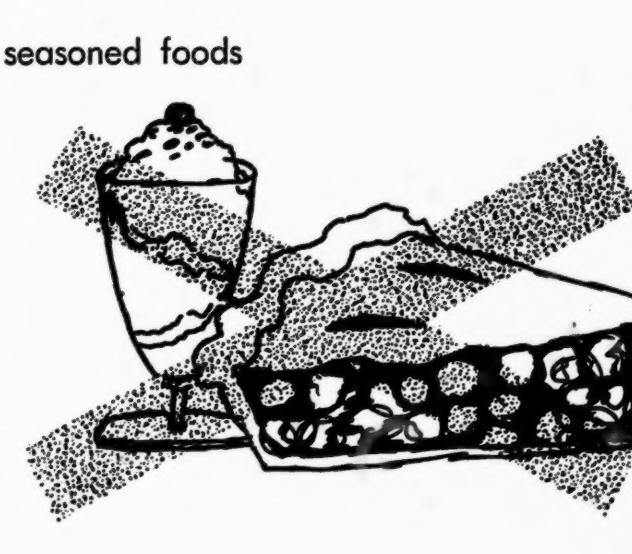
Candy, soft drinks, pastries and highly seasoned foods have no real place in the school lunch. **CANDY AND SOFT DRINKS HAVE LITTLE FOOD VALUE FOR HEALTH AND PROTECTION.** The limited amount of money budgeted for the lunch program should be spent for adequate meals consisting of protective foods.

It is wise to have in each meal some food that furnishes protein such as:

meat
eggs
milk
fish
legumes

Children should have only foods which are easy to digest and not so sweet or highly seasoned as to impair their taste for simple dishes. It is best to omit the following from the lunch menu:

rich puddings
pastries
pancakes
heavily spiced or highly seasoned foods



Tea and coffee:

Neither tea nor coffee should be served to children.

Kool-aid:

The excessive amount of sugar and flavoring used in its preparation is harmful, and an increase in dental caries may be seen in children who drink it.

Cocoa:

Cocoa should be served only occasionally. Its frequent use is likely to destroy the child's appetite for plain milk.

Fried foods:

Fried foods should be used sparingly. It is difficult to make good, digestible fried products because of many important factors. The frying, itself, is a fire hazard. It is difficult to clarify and store fat properly. Special equipment and skills are needed. Temperature control is important. It is well to remember that fats can be used to much better advantage, especially when they are scarce.*

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* Handbook for Workers in the School Lunch Program, pps. 7-8.

NUTRITIVE CONTRIBUTIONS OF THE FOUR FOOD GROUPS, OTHER FOODS, AND NATIVE FOODS*

The Agricultural Research Service of the U. S. Department of Agriculture has suggested a revision of the Basic Seven. It changes from seven to four the number of food groups, condensing and simplifying the original plan. The same basic foods are included and it is generally felt that the four groups present an easier and more effective teaching approach.

In this handbook the Basic Four has been modified to conform with the Native home diet. This diet is high in certain forms of oils which supply generous amounts of Vitamin A and calories. Thus a separate group for fats and oils, Group V, has been added to the Basic Four. The Basic four and five are identical except that the fats and oils have become an added group for use in areas where seal and other oils form an important part of the diet.

THE FOODS DISCUSSED HERE IN THE AMOUNTS RECOMMENDED ARE FOR THE TOTAL DAY. THE TEACHER WILL NEED TO KEEP IN MIND THAT FOR THE SCHOOL LUNCH PROGRAM THE MEAL WILL FURNISH ONE-THIRD OF THE DAY'S REQUIREMENTS.

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* **Note: This section is for general information. For practical reasons not all of the foods named will be included in the school lunch.**

I. Vegetable - Fruit Group:

Store sources

Vitamin A:

- Apricots
- Carrots
- Sweet potatoes
- Pumpkin
- Squash
- Spinach
- Broccoli
- Turnip greens

Iron:

- Spinach
- Broccoli
- Turnip greens
- Willow leaves
- Fireweed shoots

Vitamin C (ascorbic acid):

- Orange juice
- Grapefruit juice
- Tomato juice
- Lemon juice
- Broccoli
- Oranges
- Strawberries
- Grapefruit

TOMATO
JUICE
ORANGE

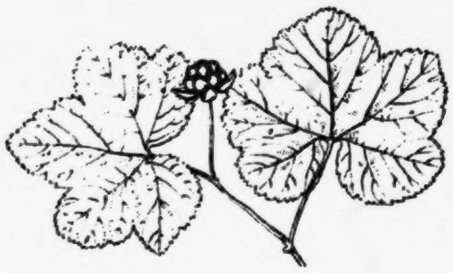
Native sources

Vitamin A:

- Dandelion greens
- Willow greens
- Wild rhubarb
- Rose hips
- Lambsquarters
- Fireweed
- Beach greens

Iron:

- Willow leaves
- Fireweed shoots

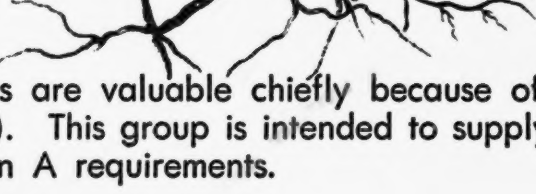


Vitamin C:

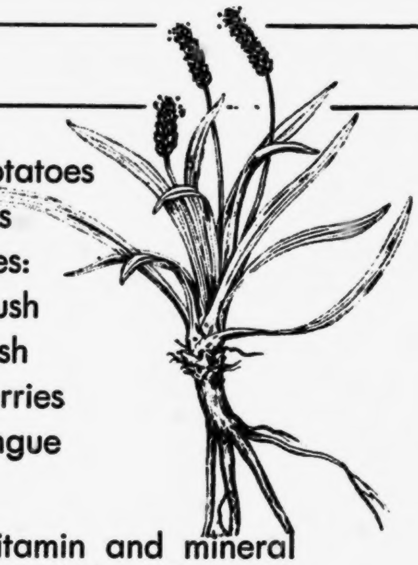
- Fireweed
- Fresh sourdocks
- Willow shoots
- Willow leaves
- Dandelion greens
- Wild strawberries
- Cloudberries
- Rose hips

Other native foods:

- Wild celery
- Wild cucumber
- Wild asparagus
- Wild rice
- Wild sweet potatoes
- Cress
- Fireweed



- Eskimo potatoes
- Blueberries
- Cranberries:
  - High bush
  - Low bush
- Thimbleberries
- Goose tongue



Fruits and vegetables are valuable chiefly because of the vitamin and mineral content (calcium and iron). This group is intended to supply nearly all the Vitamin C and over half the Vitamin A requirements.

Vitamin A is necessary to promote:

healthy body tissues (both internal and external)
normal vision
normal growth

Vitamin C (ascorbic acid) is needed for:

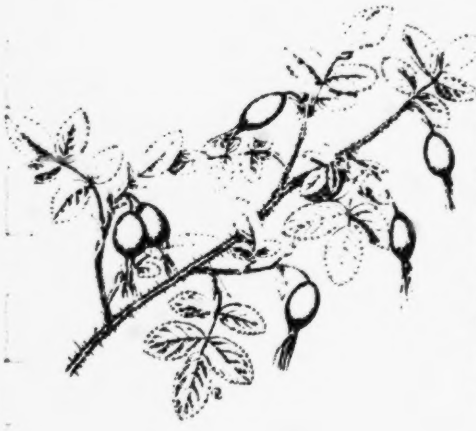
healthy gums
body tissues

Amounts recommended:

Choose at least 4 servings daily from this vegetable — fruit group — one from a particularly good source of Vitamin C, such as citrus fruits.

The remaining 1 to 3 servings may be any vegetable or fruit including those that are valuable for Vitamin C and Vitamin A.

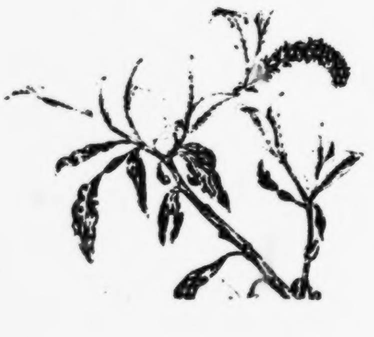
Rose hips:



Rose hips are the red seed pod of the wild or garden rose. They are unusually high in Vitamin C. Three rose hips have as much Vitamin C as one orange; the juice contains five to thirty times as much Vitamin C as orange juice. Though the rose hips are common in many areas, too few people know of their high value. Methods of using them should be taught and full utilization of this source of nutrition should be encouraged. With such an abundance it is a shame that so much is left unused. Rose hips can be collected when they turn red, and even after frost, or when dried they are still worth picking. To derive the greatest benefit from them, they should be used the same day they are picked. Products made from rose hips should be stored in a cool, dry place away from light so that the Vitamin C is not destroyed.

Full information and recipes may be found on pages 26 and 27 in ALASKA BERRIES.

Willow greens:

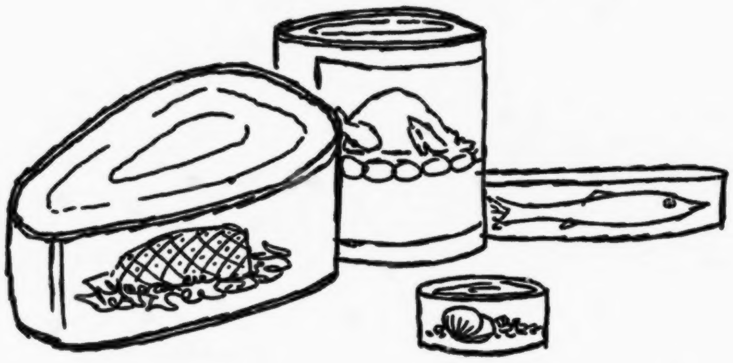


The new and tender shoots of the ptarmigan willow may be collected in the early spring. The outer bark on the new shoots of the tall Alaska Willow (Salix Alaxensis) is stripped off and the inner portion eaten raw. Later the young, tender buds, and the leaves are excellent in salads. They are a rich source of Vitamin C. They should be stored in a cold place to prevent wilting and fermentation.

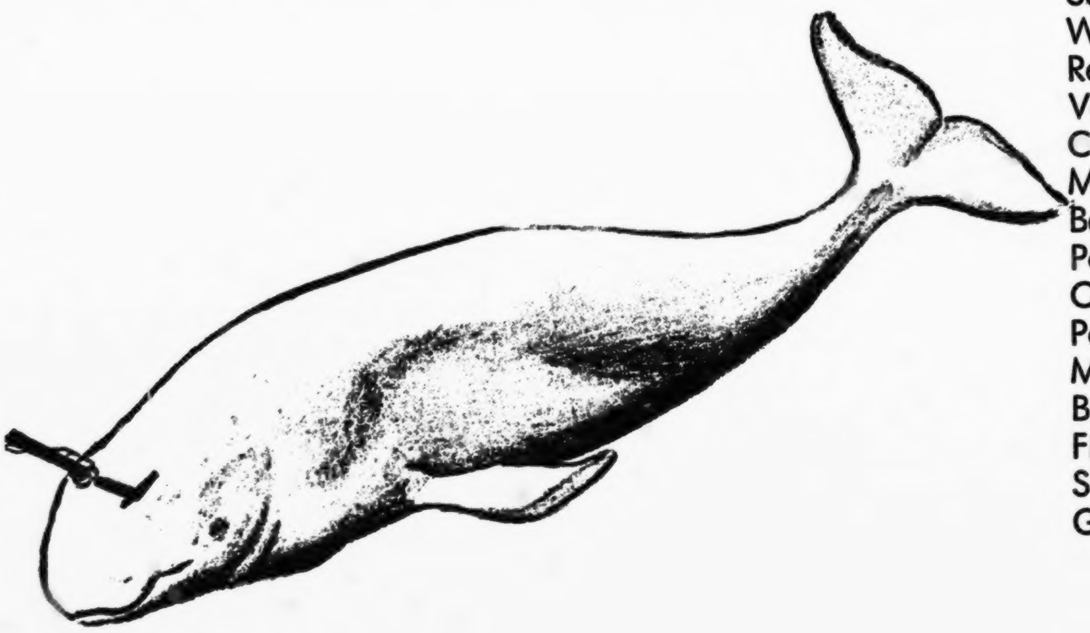
II. Meat group:

Store sources

Beef
Veal
Lamb
Pork
Poultry
Fish and shellfish
Luncheon meats
Variety meats such as:
    liver
    heart
    kidney
    brains



Native sources



Whale and all the organs
Seal " "
Walrus " "
Reindeer " "
Venison " "
Caribou " "
Moose " "
Bear " "
Polar Bear*
Oogruk*
Porcupine
Muskrat
Beaver
Fish (all varieties)
Shellfish
Game birds
    ptarmigan
    owl
    ducks and other water fowl
Mountain sheep
Rabbit
Mink

Other protein-rich foods to be included in the diet to help meet the daily requirement of this group are:

Eggs
Nuts
Cheese
Dry beans
Dry peas
Lentils
Peanuts
Peanut butter

*** Polar Bear liver should not be eaten because it has too much Vitamin A, overdoses of which cause nausea, baldness, and affect the bones. Excellent sources of Vitamin A are livers from seal, fish and animals.**

Foods in the meat group are high in protein, the main function of which is to repair body tissues — muscles, skin, hair, nails, and blood. Proteins can supply energy, although this is not their prime function in the diet. If the body does not take in enough of the other energy-giving nutrients, it will use the protein ignoring the building and repairing functions for which the body specifically needs it.

Amounts recommended:

At least 3 ounces of lean meat or meat substitute is needed daily to provide adequate protein. Each of the following foods provide 1 ounce. Select from this list a total of 3 ounces using 1 or more foods.

- 1 small piece (or 1/3 cup) lean meat, fish, fowl, or organ meats such as liver and heart.
- 1 thin slice cheese
- 1 egg
- 1/3 cup cooked dry beans
- 2 tablespoons peanut butter
- 1/4 to 1/3 cup dry milk powder (in cooking).

III. Milk group:

Milk ----------Whole, evaporated, skim, dry, buttermilk.

Cheese --------Cottage, and natural or processed cheddar-type.

Ice cream.

MAJOR CONTRIBUTIONS TO THE DIET: Calcium
Protein
Riboflavin

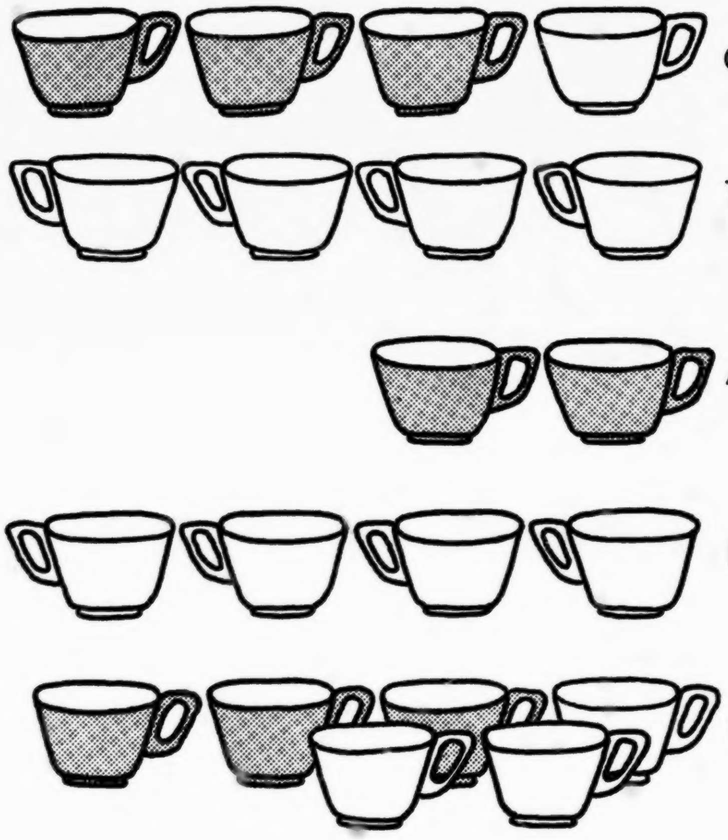
In many locales milk is the best source of calcium which is essential to the development of bones and teeth. In these locales it is almost impossible to supply the amounts of calcium needed unless milk in some form is used daily, and is supplemented by cheese and other milk products.

In Alaska there are other sources of calcium, such as **some of the green leaves and the bones from fish** which may be used in making broth. However, it is recommended that this source not be relied upon wholly for the required amount of calcium.

Whole milk also supplies Vitamin A, riboflavin, and high quality protein. In addition, there are smaller amounts of many other nutrients. Almost all evaporated milk and much of the fresh fluid milk is fortified with Vitamin D. It should be remembered, however, that Vitamin A is not present in non-fat milk solids, so butter or fortified margarine (slightly less than 2 teaspoons) must be included in the meal to make up for the deficiency.

AMOUNTS RECOMMENDED:

Some milk is needed every day for everyone. The recommended amounts are given in terms of the whole fluid milk with a cup representing an 8 ounce portion:



Children	3 to 4 cups
Teenagers	4 or more cups
Adults	2 or more cups
Pregnant women	4 or more cups
Nursing mothers	6 or more cups

Any of the types of milk already mentioned may be used to fill this requirement. The equivalent substitutes for 1 cup of whole milk (based on calcium content) are:

1/2 cup ---------------------------- Evaporated milk

4 tablespoons non-fat milk solids plus
2 teaspoons fortified margarine

1 inch cupe (1 ounce) ------------- Cheddar-type cheese

1-1/2 cups cottage cheese* plus 2 teaspoons fortifed margarine

1-1/4 cups ----------------------------- Ice cream

---

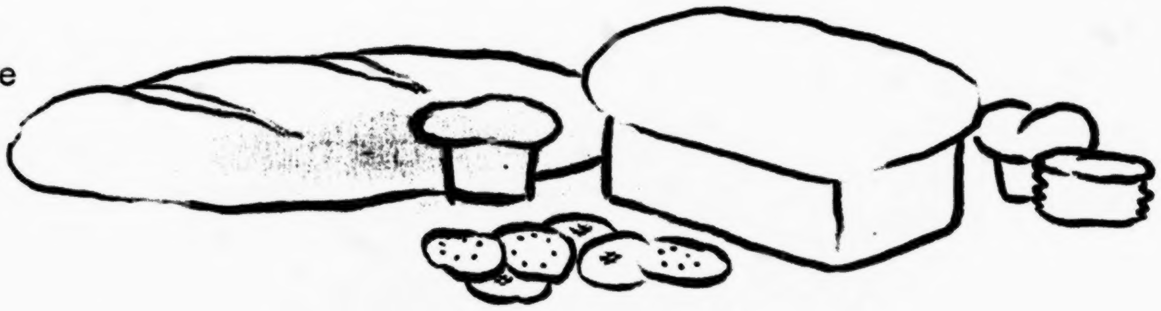
* **Impractical in a supplemental school lunch**

IV. Bread-cereal group:

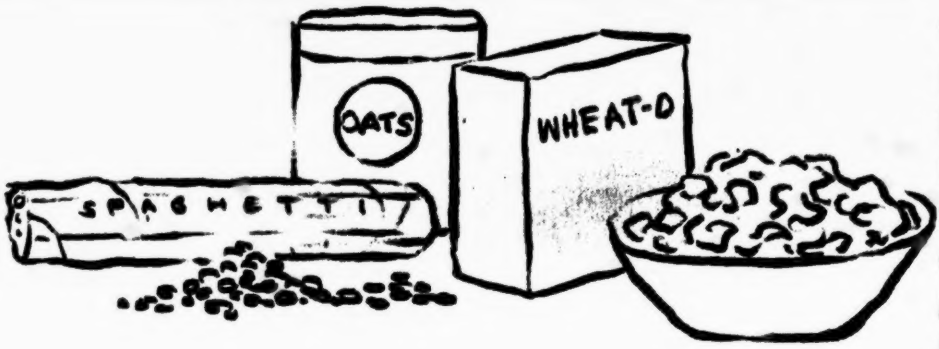
Includes all breads, flour, and cereals. Choose frequently from those that are whole-grain, enriched, or fortified. Unenriched refined cereals do add some protein and smaller amounts of other nutrients to the diet as well as giving variety to meals but they are impractical in a supplemental school lunch program.

BREADS

- Whole wheat
- Rye
- Enriched white
- Crackers
- Quick breads
- Muffins
- Biscuits
- Pilot bread



CEREALS



- Whole wheat
- Rolled oats
- Ready-to-eat cereals
- Brown rice
- Converted rice
- Corn meal
- Macaroni, spaghetti
- Noodles

CONTRIBUTION TO THE DIET

- Carbohydrates
- Several of the B-Vitamins
- Iron
- Some protein
- Roughage

The amount of calcium provided by the bread-cereal group is dependent largely on the ingredients of bread. The use of milk (whole or milk solids), commercial preparations used by bakeries, and yeast adds calcium in varying amounts to the bread.

Iron and the B-Vitamins are added by fortifying the cereal foods. Whole grain and enriched cereals are especially important because they are reliable sources of thiamine, and only a few foods are high in this vitamin.

The quality of the small amount of protein found in cereals will not promote growth unless supplemented by protein from animals sources, such as:

- meat
- poultry
- fish
- eggs
- milk
- cheese

THE MINIMUM AMOUNTS RECOMMENDED DAILY ARE THREE SERVINGS.

One serving equals:

1 ounce ready-to-eat cereal

1 slice bread

1/2 to 3/4 cup cooked:

- cereal
- rice
- macaroni
- noodles
- spaghetti

Growing children will need at least one serving from this group at each meal. Adults will require only as much as is necessary to meet their caloric needs.

V. Fats and Oils Group

Some fat is essential to good nutrition. It is an excellent source of calories needed to provide warmth, to carry out muscular activities, and to keep the body functioning. A certain amount of fat will be provided naturally by the food included in the basic groups. We add fats and oils to many foods, both in cooking and at the table. SEAL OIL, BELUGA OIL and other sea mammal oils when carefully handled and stored to prevent rancidity furnish good amounts of Vitamin A. Butter and fortified margarine are also sources of this vitamin.

Many of these are ingredients of baked goods or mixed dishes.

jam
BUTTER
OLEO

Other foods:

In addition to the food groups listed, there are a number of other foods, all rich in calories and energy that we use daily but which are not classified in any group, such as:

sugars, jams, jellies, and syrups.

SUGAR AND SWEETS

Sugar and sweets help to make a meal more flavorful and satisfying, but we must be particularly careful that they are not used to excess. Because of the increased use of candy and sugar in the villages, sugar should be used sparingly in the lunch. Brown sugar and molasses in contrast to highly refined sugar contribute some iron to the diet.

These "Other foods" are of importance primarily for calories and they also add to the day's total of nutrients. Regardless of a person's age, the food needed will be basic for a good diet. The amount per serving, preparation, and special foods may vary for different ages, but every one needs the same kind of foods for good health.

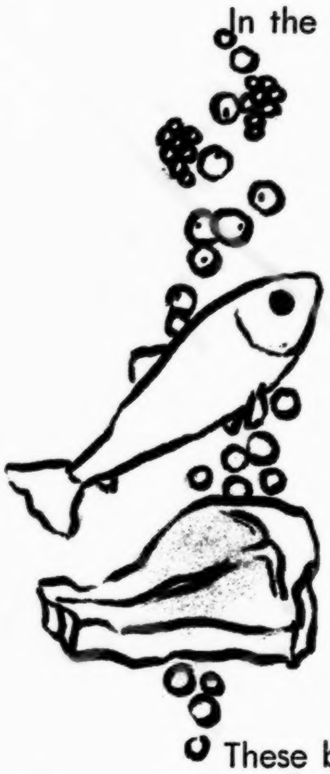
VITAMIN SUPPLEMENTS

Vitamin tablets, in children's dosage, have been selected to supplement the nutrients provided through the school lunch. Each child should receive one daily. In agreement with recommendations made by authorities in the field of nutrition, these tables contain neither folic acid nor B^{12} complex.

Native foods:

The use of Native foods in the school lunch program will be limited, but it can be incorporated easily. Berries, meat, and fish will probably be the only such items to be contributed by the village, and the amount of the contribution will be dependent upon the seasonal supply. Oftentimes this is scanty and the food is needed in the home to meet the family's requirements.

In the nutrition packet are several booklets pertaining to Native foods:



WINNING WAYS
ALASKA BERRIES
WILD EDIBLE AND POISONOUS PLANTS OF ALASKA
EMERGENCY FOOD VALUE OF ALASKAN WILD PLANTS
BETTER DEER RECIPES
ALASKAN POTATOES
THE HUNTER RETURNS WITH THE KILL

These booklets should be read with care, the contents noted, and information used as much as possible, particularly in adult education classes. Each booklet considers the subject matter quite extensively and can be of great help to the teacher.

SIGNS OF MALNUTRITION IN CHILDREN

By

David L. Sparling, M.D.

Formerly with the U. S. Public Health

The evaluation of nutritional status in a child can, admittedly, be a complicated process if one tries to be accurate. There are, however, some pretty simple guidelines which all teachers working in Alaska day schools should know.

Between the ages of five and eight children rapidly increase in height. They "lose their baby fat" and they often seem slender with poorly developed muscles. Before puberty, which occurs earlier in girls than in boys, children again show an increase in the rate of growth and normally a considerable increase in weight. It is during these two periods that nutritional deficiencies may be most obvious and most likely to cause trouble to the school-age child.

Adequate nutrition in the growing child is, first, the getting of quantity — getting enough energy and building blocks out of the daily diet for normal growth, play, and study with a little reserve for illness and other emergencies. In the past we have depended on measuring the results quantitatively. The resulting height, weight, age tables, such as those published several years ago by the Metropolitan Life Insurance Company and found in many child development texts, attempt to provide a recommended weight for all children of a given age and height. This was a first step in understanding child nutrition but, of course, it failed because children do not all have the same build, nor do they all have their growth spurts at the same age. Some are naturally large boned and broad, and some naturally more muscular than others.

One can have a better understanding of nutrition through weight and height determinations if these values are taken monthly or four times during the school year, and a continuous record kept throughout the child's school experience. In this way nutritional status can be estimated from progress and change, as well as from an evaluation taken on a single day. A final quantitative evaluation is the comparison of a child with other members of his family and with children of the same age in his community. A child whose height and weight are distinctly out of line by these comparisons needs closer observation. In each of these types of evaluation the Public Health nurse can be of great assistance to the teacher in the interpretation of results.

Nutrition depends upon the right quality of food as well as the right quantity. The rapidly growing child, in particular, needs adequate protein and vitamins as well as calories. The more often he is sick and the poorer his housing and clothing, the greater is his need for an adequate diet. Without an adequate diet the child shows low figures and poor gain in height and weight and some, or all, of the symptons of malnutrition. The following are some of those symptoms:

Tiredness:

The poorly nourished child may seem constantly tired and easily fatigued by an ordinary amount of play or other exercise.

Dullness:

The poorly nourished child doesn't seem to have the usual energy to take an interest in any experience or in study in school. The lack of "sparkle" is easy to see.

Poor appetite:

If malnutrition has lasted for any length of time the child has a constantly poor appetite for all kinds of foods. This is particularly true if he is getting very much sweets in the form of refined sugars, as in candy, chewing gum, or soda pop, or even excessive amounts of juices between meals.

Frequent infections:

The malnourished child is particularly prone to colds, tonsil infections, skin infections and sties. Deficiencies of protein and Vitamin C, particularly contribute to this tendency. Susceptibility to colds is worse, of course, if housing and clothing are bad or if the child is constantly exposed to infection. For the same reasons the malnourished child can more easily acquire pneumonia, tuberculosis, chronic ear infections, phlyctenular inflammations of the eyes and other more serious illnesses.

Poor color:

Malnourished children, particularly during the periods of rapid growth, are often pale due to anemia. Lack of protein and iron are important in causing the anemia. The anemia can be confirmed by a simple blood test, which is commonly a part of the school health evaluation. The anemia, in turn, increases the child's loss of appetite and susceptibility to infections.

Poor muscles:

One of the most obvious things about the malnourished child as soon as he is undressed to his undershorts for health inspection at the beginning of the school year is his poor muscle development and poor posture. The muscles are small, soft and flabby. Because of poor posture the child stands with his chest flat and his shoulders rounded over. Sometimes he doesn't seem to have the energy to hold his head up straight. His abdominal muscles are often weak so that his abdomen bulges out with what often looks like fat. The fact that it isn't fat is evident as soon as the child lies down so that the thinness of his abdominal wall can be felt. Of course, this poor muscle development is particularly due to protein deficiency.

Decayed teeth:

In growing children decayed teeth are as much due to inadequate amounts of protein, calcium, and phosphorous and Vitamin D as they are too much sweets. The well nourished child is much less likely to have decayed teeth. For the same reason his bones are also stronger and often larger.

Immaturity:

The malnourished child often behaves like a child one, two, or three years younger than he is. This immaturity is the result of lack of energy to participate fully in the normal experiences of growing up for many years. As a result the child is retarded in emotional development and educational achievement. He seems emotionally immature. Interestingly enough it has been found that the eruption of teeth, maturation of bones and onset of puberty also may be delayed one, two, or three years as a result of prolonged malnutrition.

It is a good thing to confirm an impression of malnutrition by investigating a child's diet. Of course one must be careful in making such investigations not to make observations about the quality which would place either the child or his parents in a bad light. So often malnutrition in children is not a result of indifference or negligence on the part of parents but is simply due to inability to get the right foods or lack of knowledge about what are the right foods. The lack of knowledge is especially disturbing among the families who are yearning to be more "civilized" and are falteringly bringing into their diet the store bought foods which they see pictured in the magazines, which seem to have the greatest immediate taste appeal and which can be purchased for the small amount of cash which they have during the early years of earning money. It's not surprising that these families lean particularly towards bread, crackers, hot cakes and pastries.

Malnutrition is becoming less common in the villages where parents are learning the use of store bought protein foods, cooked cereals, and dried fruits, and where meat and fish are regularly obtained and preserved through the year by home canning, freezing, and drying. Recipes using canned or dried meat or fish, that are attractive, easy to prepare and "Americanized" are often popular. Canning bees, cooking clubs, and fishing contests have often helped to prevent malnutrition. Baby contests and child health contests in many towns have been good means of advertising nutrition and recognizing its achievement.

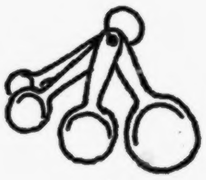
Measurements
and
Equivalents

HOW TO MEASURE

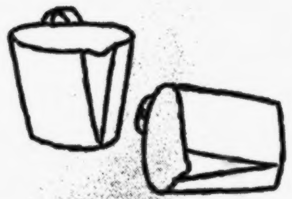
To prepare food and have a good product it is necessary to have quality ingredients combined and cooked according to a standardized recipe. The ingredients must be measured accurately with standard equipment. In some cases this is done by weight — pounds and ounces, in other cases it is done by volume — quarts, cups, spoons, etc. Luck has very little to do with the success of the cook's efforts unless she is the person who "dumps-in, sprinkles, adds-to-it, and measures the fistfull". Then, as often as not, the luck may be bad.

To insure accuracy and ease of measurement, the following utensils are recommended:

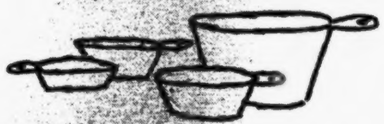
1 or more sets of standard measuring spoons, (1/4 teaspoon, 1/2 teaspoon, 1 teaspoon and 1 tablespoon).



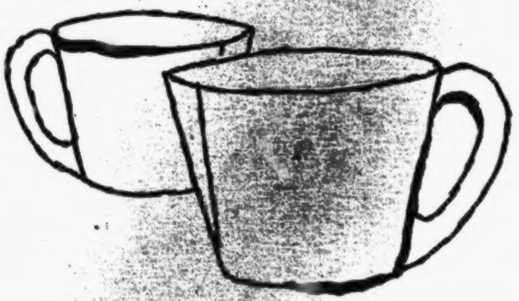
2 or more measuring cups graduated in thirds and fourths and provided with a pouring lip.



1 or more sets of measuring cups (1/4 cup, 1/3 cup, 1/2 cup, and 1 cup).

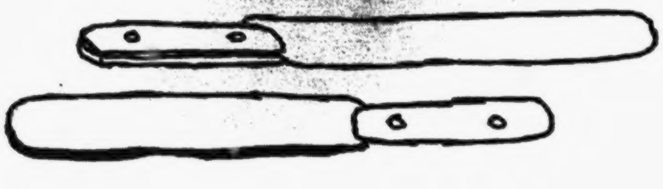


1 or more graduated pint measures.



1 or more graduated quart measures.

2 or more spatulas or knives.



Rules used in measuring

DRY INGREDIENTS:

1 Use standard measuring spoons and cups.

2 To measure 1 cup of dry ingredients:
With a tablespoon or a scoop, fill the cup rounding full. Level the top with straight edge of a knife or spatula. Do not pack by tapping the cup. Do not allow the surplus to fall into the mixing bowl.

3 To measure other amounts of dry ingredients:
Follow the directions for measuring 1 cup using the standard measure indicated as, for example, 1/4 cup, 1/3 cup, 1 pint, 1 quart. If no fractional measure units are available, fill the cup measure to the desired level or use the correct number of tablespoons.

4 To measure 1 tablespoon or 1 teaspoon:
Dip the spoon into the ingredient, bring it up rounding full, level the top with the straight edge of a knife or spatula.

5

To measure fractional parts of a teaspoon:

Use the measuring spoon indicated. If these are not available, measure 1 teaspoon of the ingredient, and with a knife, cut straight through the ingredient from the handle of the spoon to the tip. Push off the ingredient on one side of the cut. One-half teaspoon will remain.

If 1/4 teaspoon is needed, cut in two crosswise the one-half which remains.

6

Measure fractional parts of a tablespoon in the same way.

7

Sift **white flour** before measuring.

8

Stir **whole grain flour and meal** with a fork to lighten them. Then they may be measured as other flours.

9

Do not sift **white sugar** unless it has lumped.

10

Pack **brown sugar** into the measure just enough for the sugar to mold to the shape of cup when turned out.

11

Roll and sift **confectioner's sugar** before measuring.

SOLID FATS:

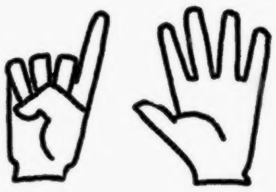
1. Use standard measuring spoons and cups.

2. Have solid fats at room temperature before measuring.

3. Pack fat firmly into the measure, without air spaces, until full. Level off the top of the measure with the edge of a knife or spatula.

4. Measure fractional parts of a cup by using the fractional measuring unit required. In measuring less than one-fourth of a cup of fat it is best to use a tablespoon.

5. The water displacement method can be used as an alternative. If, for example, the amount of fat needed is 1/2 cup, the measuring cup is filled with water to the one-half mark. Fat is added to the water to bring the water level up to the mark for one cup. The fat must be thoroughly covered with water. **Drain off the water.**



6. In handling fats it is sometimes convenient to be able to relate weights and measures. Butter and margarine come in pound and quarter-pound prints. A quarter-pound stick of butter is equal to one-half cup, or 8 tablespoons butter, and may be used on this basis without measuring.

LIQUIDS:

1. Use standard measuring spoons and cups. Use a measuring cup which has the one-cup mark below the rim.

2. Pour syrups, liquid fats, milk, and other liquids directly into the measure to the desired mark.

3. Use a spoon or rubber scraper to get out the last few drops of syrups and oils.

4. If two ingredients, one liquid and one dry, are to be measured, measure the dry one first and then the liquid. This will require only one measuring cup and thus save dishwashing.

MEASUREMENTS AND EQUIVALENTS

3 teaspoons = 1 tablespoon
4 tablespoons = 1/4 cup
8 tablespoons = 1/2 cup
12 tablespoons = 3/4 cup
5 1/3 tablespoons = 1/3 cup
10 2/3 tablespoons = 2/3 cup
16 tablespoons = 1 cup
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon
16 cups = 1 gallon
8 quarts = 1 peck
4 pecks = 1 bushel
2 tablespoons = 1 liquid ounce
1 cup = 8 liquid ounces
1 pint = 1 pound of liquid
1 cube butter = 1/2 cup
1 pound butter = 2 cups
1 square chocolate = 1 ounce

EQUIVALENT FOOD MEASURES

Amounts of some foods which equal approximately 1 pound

Apples, dried	5 cups (equals 10 cups cooked)
Applesauce	2 cups
Apricots, dried	3 cups (equals 1-1/2 qts. cooked)
Bacon, sliced	15 - 20 slices
Baking powder	2-1/2 cups
Barley, pearl	2 cups (equals 6 cups cooked)
Beans, dried, kidney	2-1/4 cups (2-1/2 cups raw equals 7 cups cooked)
Beans, dried, lima	2-1/3 cups (increased 2 to 3 times in cooking)
Beans, dried, navy	2-1/3 cups (2-1/2 cups raw equals 7 cups cooked.)
Butter	2 cups
Cabbage, shredded	2-1/3 cups
Cheese, grated	4 cups
Cocoa	4 cups (2 cups of cocoa to serve 50)
Coffee, coarse grind	5-1/2 cups
Coffee, drip grind	5 cups
Cornmeal, dry	3 cups (equals 3-1/2 qts. cooked)
Cornstarch	3-1/4 cup (1/2 cup to thicken 1 qt. of liquid for pudding)
Crumbs, fine, dry	5 cups
Cream of wheat, dry	2-2/3 cups (equals 3 qts. cooked)
Figs, dried	3 cups
Flour, all purpose, sifted	4 cups
Flour, whole wheat	3-1/3 cups
Gelatin, granulated, plain	3 cups (2 to 3 tbs. per qt. liquid)
Gelatin, flavored	2-1/2 cups (1 to 1-1/4 cups per qt. liquid)

Honey	1-1/3 cups
Lard	2-1/2 cups, firmly packed
Macaroni, uncooked	4 cups (equals 2-1/2 qts. cooked)
Meat, uncooked, ground	2 cups
Meat, cooked, ground	3 cups
Meat, cooked, diced	1 quart
Milk, dried	4 cups (1 cup to a qt. of water)
Molasses	1-1/3 cups
Oatmeal, dry	4-3/4 cups
Oatmeal, cooked	3 to 3-1/2 cups
Oil	2-1/8 cups
Onions, whole	4 to 6
Onions, chopped	2-1/2 to 3 cups
Peaches, dried	2-1/2 cups (equals 5 to 6 cups cooked)
Peanut butter	1-2/3 cups
Potatoes, diced, raw	2 cups
Prunes, dried, size 30-40	2 cups (doubles in bulk when cooked)
Raisins, seedless	3 cups
Rice, raw	2 cups (equals 2 qts. cooked)
Salt	2-3/8 cups
Shortening	2 cups
Spaghetti	5 cups (equals 3 qts. cooked)
Sugar, brown, packed	2-1/2 cups
Sugar, confectioner's	2-1/2 to 3 cups
Sugar, granulated	2 cups
Tea	6 cups

SUBSTITUTE EQUIVALENTS

1 tablespoon cornstarch = 2 tablespoons flour

1 cup cake flour = 7/8 cup all purpose flour

1 cup honey = 1 to 1-1/4 cups sugar and 1/4 cup liquid

1 square chocolate = 4 tablespoons cocoa and 1/2 tablespoon fat.

1 cup butter = 1 cup margarine or shortening or 7/8 cup lard and 1/2 teaspoon salt

1 cup milk = 4 tablespoons dried milk and 1 cup water
= 1/2 cup evaporated milk and 1/2 cup water

1 quart milk = 1 cup dried milk and 1 quart water
= 2 cups evaporated milk and 2 water

1 cup sour milk = 1 cup milk and 1 tablespoon vinegar

1 egg = 2 tablespoons dry egg and 2 tablespoons water

1 teaspoon double acting baking powder = 1-1/3 teaspoons tartrate or phosphate baking powder

1 teaspoon double acting baking powder = 1/4 teaspoon soda and 1/ teaspoon cream of tarter

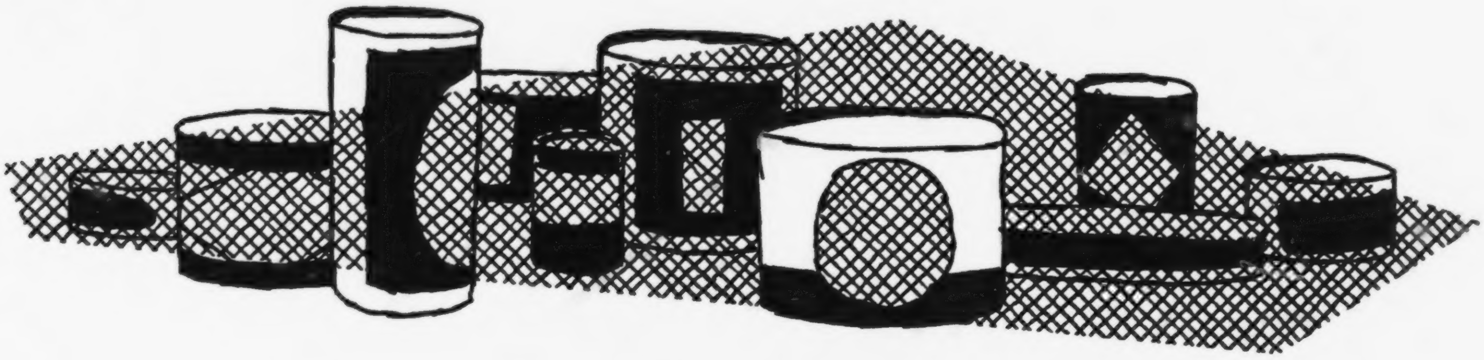
1 tespoon double acting baking powder = 1/4 teaspoon soda and 1/2 cup sour milk or cream

1 cup flour, pastry = 1 cup bread flour less 2 tablespoons

LEAVENING AGENTS

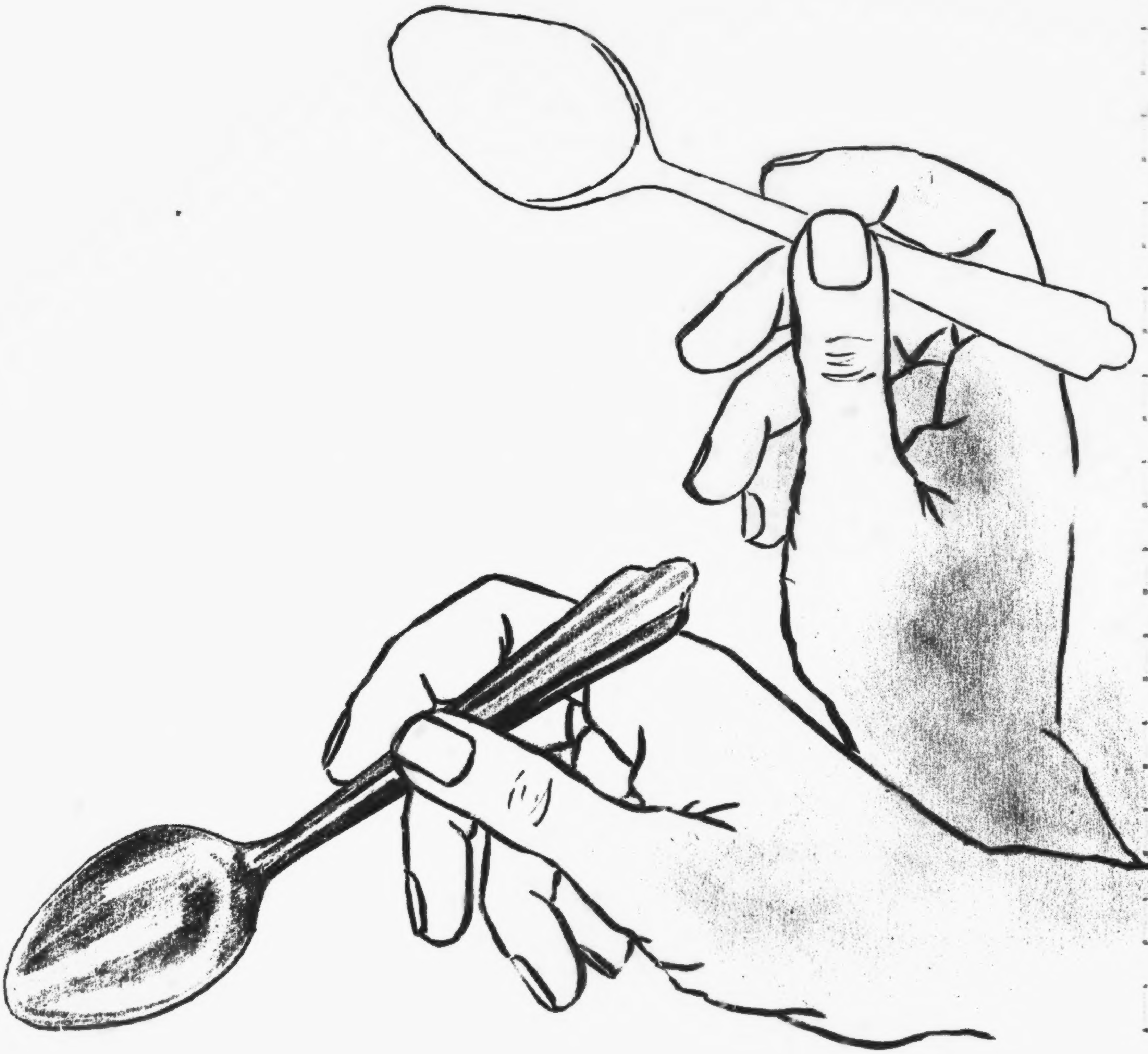
For 1 cup flour use:

- 2 teaspoons tartrate or phosphate baking powder (Royal, Shillings)
- 1 teaspoon double acting baking powder (Calumet, Clabber Girl, K.C.)
- 1/2 teaspoon soda plus 1 cup sour milk
- 1/2 teaspoon soda plus 3/4 cup molasses



STANDARD CONTAINER SIZES
(CANS)

CAN SIZE	APPROX. NET WEIGHT OR FLUID MEASURE	CUPS APPROX.	APPROXIMATE NUMBER OF SERVINGS
8 oz.	8 oz.	1	1-2 servings
Picnic	10-1/2 to 12 oz.	1-1/4	2 servings
12 oz. (vacuum)	12 oz.	1-1/2	3 to 4 servings
No. 300	14 to 16 oz.	1-3/4	3 to 4 servings
No. 303	16 to 17 oz.	2	4 servings
No. 2	1 lb. 4 oz. or 1 pt. 2 fl. oz.	2-1/2	4 to 5 servings
No. 2-1/2	1 lb. 13 oz.	3-1/2	4 to 6 servings
No. 3 cyl. or 46 fl. oz.	3 lb. 3 oz. or 1 qt. 14 fl. oz.	5-3/4	10 to 12 servings
No. 10	6-1/2 lb. to 7 lb. 5 oz.	12-13	18 to 25 servings



Useful Information

USING A RECIPE

The use of tested recipes which are carefully followed saves time, energy, supplies, and sometimes embarrassment. A good recipe gives this information:

Ingredients listed in the order of use.

Method of combining ingredients

Temperature and type of heat

Length of cooking period

Yield of the recipe

Special directions, if needed

It is better to have a few good basic recipes with variations than to have many recipes of dubious quality.

Consider the following when using a recipe:

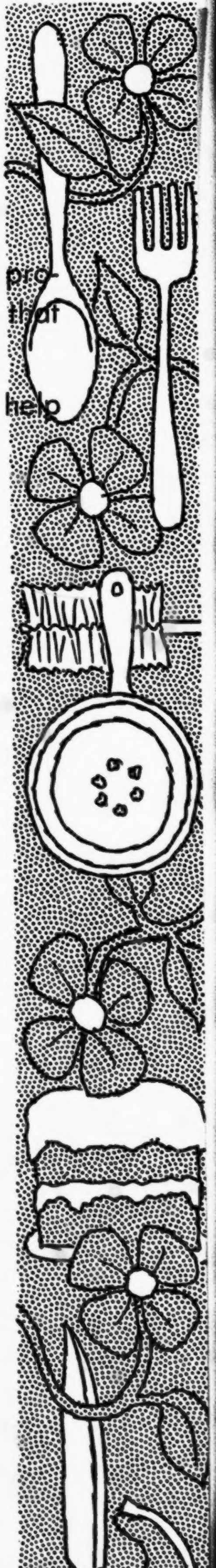
1. Check to see that the number of servings are suitable for your use. If you must make changes, write them down when you have plenty of time. Don't trust your mental arithmetic when other things may distract your attention.
2. Be sure all ingredients are on hand.
3. Study the recipe carefully so that you understand the terms and processes used.
4. Decide when to begin preparations so that the food will be ready at the proper time. Some foods must be ready immediately before serving, others may be prepared hours or a day before they are served, some must be cooled or allowed to set.
5. Decide in what order the work should be done.
6. Assemble all ingredients and utensils.
7. Measure ingredients with standard measuring equipment.
8. Combine ingredients according to the directions.
9. Cook or bake as directed.

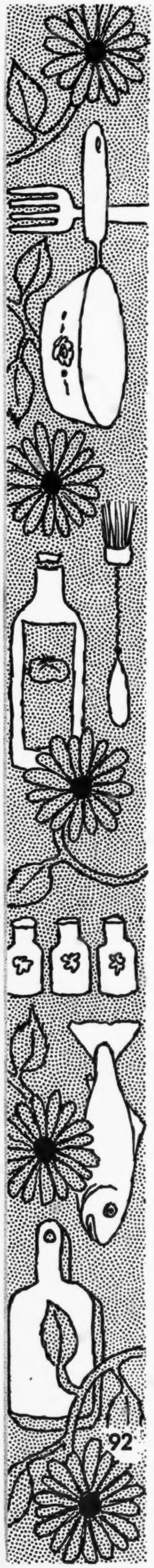
COOKING TERMS

Cooking to most workers in a school lunchroom is usually a simple and natural procedure. But so often, directions are misinterpeted because of an unfamiliar term that might appear in a recipe.

Here is a list of terms most frequently used in many recipes that may be of help to you:

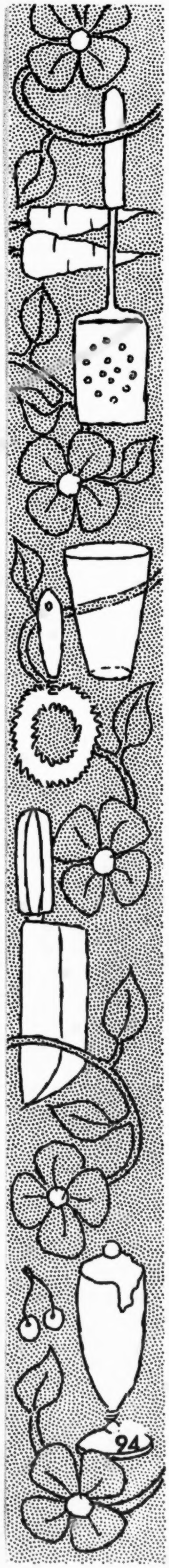
Bake:	To cook by dry heat; now usually done in an oven but occasionally in ashes, under coals, or on heated stones or metals. When applied to meats it is called roasting.
Baste:	To moisten meat or other foods while cooking to add flavor and prevent drying of the surface. The liquid is usually melted fat, meat drippings, water, or water and fat.
Beat:	To make a mixture smooth or to introduce air by using a brisk, regular motion that lifts the mixture over and over.
Blanch:	To pour boiling water over, drain, and rinse in cold water.
Blend:	To mix thoroughly two or more ingredients.
Boil:	To cook in water or a liquid mostly water in which bubbles rise continually and break on the surface. Boiling temperature at sea level is 212° F.
Braise:	To brown meat or vegetables in a small amount of liquid. The liquid may be juices from meat or added water, milk, cream or meat stock.
Broil:	To cook by direct heat. Grill.





Caramelize:	To heat sugar or other food containing sugar until a brown color and characteristic flavor develops.
Chop:	To cut into small pieces with a sharp tool as a knife.
Cream:	To work one or more foods until soft and creamy, using the hands or a spoon or another implement. Applied to fat and sugar in place of blend.
Cut:	(1) To divide food materials with a knife or scissors; (2) to incorporate fat into dry ingredients with the least amount of blending.
Cut and fold:	To combine by using two motions, cutting vertically through the mixture and turning over and over by sliding the implement across the bottom of the bowl with each turn.
Dice:	To cut into cubes.
Dredge:	To sprinkle or coat with flour or other fine substances.
Fricasse:	To cook by braising; usually applied to fowl, rabbit, or veal cut into pieces.
Fry:	To cook in fat; applied especially to (1) cooking in a small amount of fat, also called saute or pan-fry; (2) cooking in a deep layer of fat, also called deep fat-frying.

Grind:	To reduce to particles by cutting, crushing or grinding.
Knead:	To manipulate with a pressing motion accompanied by folding and stretching.
Marinate:	To treat with a marinade (an oil-acid mixture which is usually a kind of salad dressing).
Melt:	To liquefy by heat.
Mince:	To cut or chop into very small pieces.
Panbroil:	To cook uncovered on a hot surface, usually a frying pan. The fat is poured off as it accumulates.
Parch:	To brown by means of dry heat; applied to grains, as corn.
Pare:	To cut off the outside covering.
Poach:	To cook in a hot liquid using precautions to retain shape. The temperatures used vary with the food.



Render:	To free fat from connective tissue by means of heat.
Saute:	To brown quickly in a small amount of fat, with frequent turning.
Sear:	To brown the surface of meat by a short application of intense heat; used to develop flavor and improve appearance.
Simmer:	To cook in a liquid at a temperature of about 185° F. Bubbles form slowly and break below the surface.
Steam:	To cook in steam with or without pressure. The steam may be applied directly to the food, as in a steamer or pressure cooker.
Stew:	To simmer or boil in a small quantity of liquid. When applied to meat, simmering temperature is used.
Stir:	To mix food materials with a circular motion for the purpose of blending or securing a uniform consistency.
Whip:	To beat rapidly producing expansion, due to incorporation of air.

OVEN TEMPERATURES

Slow ------------------250 to 300 degrees --------for meat, custard, meringue

Very moderate -----------300 to 325 degrees --------for angel food cake

Moderate ---------------325 to 375 degrees --------for cakes, bread

Moderately hot -----------375 to 400 degrees --------for cakes, bread

Hot --------------------400 to 450 degrees --------for muffins, biscuits, pastry

Very hot ----------------450 to 500 degrees --------for toast

TO TEST OVEN TEMPERATURES WITHOUT A THERMOMETER

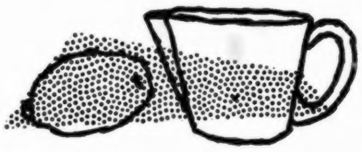
Sprinkle a small amount of flour in a pan and place in a heated oven. A piece of white tissue paper may also be used.

When flour turns a delicate brown in 5 minutes, oven temperature is slow (250° to 325° F.) When flour turns golden brown in 5 minutes, oven temperature is moderate (325° to 400° F.) When flour turns to deep brown in 5 minutes, oven temperature is hot (400° to 450° F.) When flour turns to deep dark brown in 3 minutes, oven temperature is very hot (450° to 500° F.)

HELPFUL HINTS

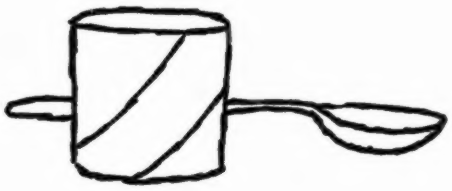
To MAKE SWEET CREAM SOUR add 2 teaspoons lemon juice or 1 teaspoon vinegar to each cup sweet cream.

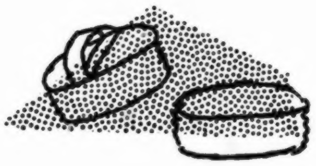
To MAKE SWEET MILK SOUR add 2 tablespoons of lemon juice or vinegar to each cup of sweet milk.



To KEEP SCALDING MILK FROM SCORCHING rinse pan with hot water before using.

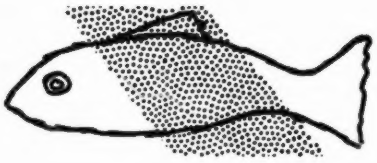
To WHIP EVAPORATED MILK place can of milk in freezing unit of refrigerator until partially frozen. Pour contents into a very cold bowl, add 1 tablespoon lemon juice to 2/3 cup of milk and whip as cream.





To SAVE TIME: When serving hot biscuits they may be prepared several hours in advance (using double-action baking powder) cut in shapes, place on baking sheet and place in refrigerator. "Pop" into oven to bake about 20 minutes before serving.

To AVOID UNPLEASANT ODORS while cooking fish, cover with browned butter or lemon juice.

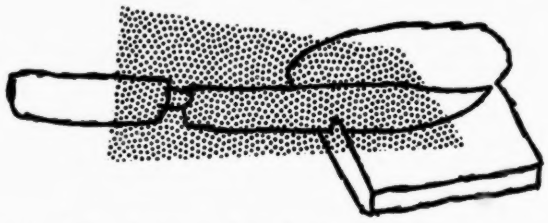


To REMOVE FISH ODORS FROM COOKING UTENSILS add 2 tablespoons ammonia to the dish water.

To KEEP BROWN SUGAR FROM BECOMING HARD place it in a glass jar and cover tightly. Also a clean plastic bag sealed tightly may be used.

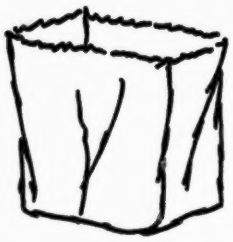
To MOISTEN BROWN SUGAR which has already hardened, place sugar to one side in a container, arrange slice of very moist bread on other side, cover tightly. Or — spread thinly in shallow baking pan and heat in warm—not hot—oven. **Watch carefully** to prevent caramelizing.

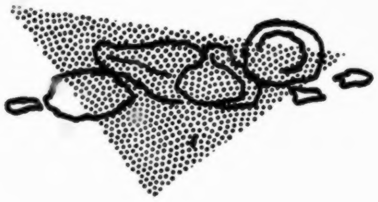
To CUT FRESH BREAD EASILY cut with a hot knife. Bread which has been chilled will slice more easily.



To PREPARE BREAD CRUMBS, force dry bread through a food chopper.

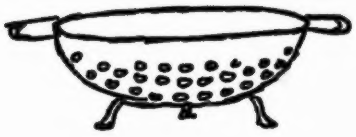
To KEEP BREAD CRUMBS FROM SCATTERING tie a paper bag to end of food chopper when preparing crumbs.





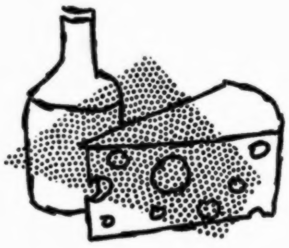
To PREVENT DRIED FRUIT FROM CLOGGING THE FOOD CHOPPER add a few drops of lemon juice before grinding.

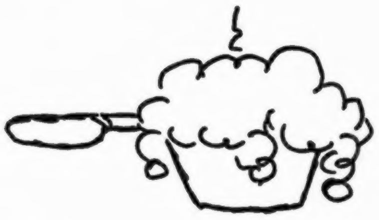
To KEEP CORN MEAL FROM LUMPING moisten with cold water before adding to boiling water.



To FRESHEN SHREDDED COCOANUT soak in fresh milk with a dash of sugar a few minutes before using, or place in a sieve set over boiling water and steam until moist.

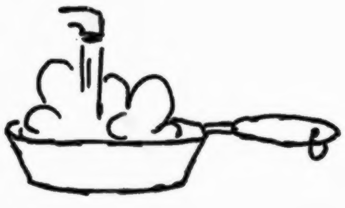
To KEEP CHEESE FRESH wrap in a cloth dampened with vinegar and store in a cool place (not in refrigerator).

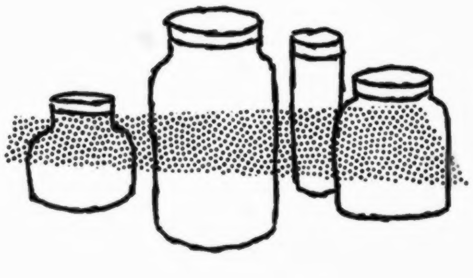




To AVOID "BOIL OVERS" while cooking macaroni or spaghetti add 1 tablespoon cooking oil or shortening to water.

AVOID POURING COLD WATER INTO HOT PANS, the sudden change of temperature will cause metals to warp.





KEEP GLASS JARS AND COVERS in which salad dressing is purchased. Remove paste board insert, wash and dry and use as containers for leftovers, spices, cut onions, sugars, etc.

Stewed Dried Fruit

Packaged variety:

Apples, apricots, figs, peaches, pears, prunes and other modern packaged dried fruits are so tender that they do not need soaking, just follow the cooking directions on each package.

Bulk variety:

Dried fruits sold in bulk usually need washing, then soaking in cold water to cover until plump (1 hour or over-night). Simmer, tightly covered, in same water until tender, (30 to 40 minutes), then sweeten to taste.

After large wooden boxes of dried fruit have been opened the remaining fruit should be placed in either a covered, clean container, or a plastic bag and tightly closed. This prevents contamination from dust and insects and prevents further dehydration. Store in a cool place to prevent molding and consequent flavor changes.

Dehydrated vegetables and fruit should be stored in the dark. Light causes deterioration and consequent flavor changes. If jars cannot be stored in the dark, they should be wrapped in paper.

The
Necessary
Tools

EQUIPMENT

The Committee of the School Lunch Program Study of the Bethel District offered two groups of recommendations:

1. Those items that are currently available for selection on the Annual Survey and Requisition Report, and
2. Those that the committee feel should also be available to the standardized school feeding program.

A......

Items listed on the Annuad Survey and Requisition Report

(unless otherwise specified, all recommendations are in terms of a unit of 30 children)

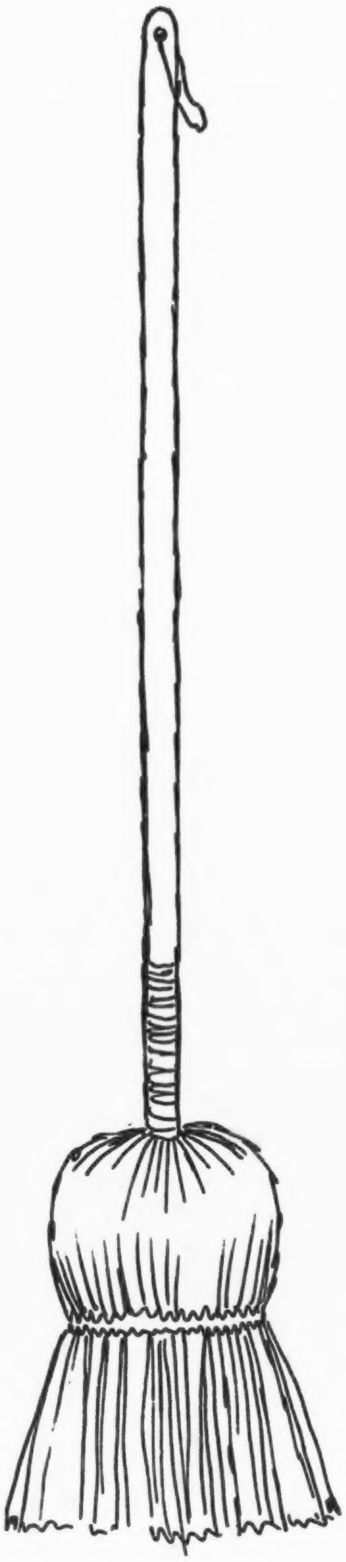
1. Two — 17 qt. aluminum kettles.
2. One — 11 qt. double boiler (heavy weight with side handles).
3. Three — Large serving trays.
4. One — Liquid soap dispenser and soap.
5. One — Portable serving cart with shelves.
6. One — 14" x 18" plastic serving tray (per child).
7. One — Set salt and pepper shakers, institution size.
8. One — Set salt and pepper shakers, table size (per 6 children).
9. Two — Garbage cans (24 gal.) garbage use.
10. One — Garbage can (24 gal.) water and ice.
11. Eight — Garbage cans (24 gal.) storage of food.
12. Six — Garbage cans (10 gal.) storage of food.
13. One — Stainless steel pitcher (1 qt. size) with pouring lip, graduated.
14. One — Stainless steel pitcher (2 qt. size) with pouring lip, graduated.
15. One — Stainless steel pitcher (4 qt. size) with pouring lip, graduated.
16. Two — Stainless steel pitchers (2 qt. size) non-graduated, for pouring purposes.
17. Two — General purpose pails (10 qt. size) lightweight, galvanized.
18. One — Saucepan (1-1/2 qt. size), with cover.
19. One — Saucepan (2-1/2 qt. size), with cover.
20. One — Saucepan (4-1/2 qt. size), with cover.
21. Four — Stainless steel soup ladles, long handles (per school).

22. Two — Baking pans (9-3/8 x 13-5/16 x 2-1/4).
23. One — Stainless steel mixing bowl (5-1/2 qt.).
24. One — Aluminum cooking pot with lid (14 qt.).
25. One — Food and meat grinder, hand-operated, 2-1/2 lb. capacity (per school).
26. Two — Cast iron frying pans (12" or 14").
27. Two — Stainless steel cake turners (per school).
28. Two — Butcher knives, 8" blade (per school).
29. One — Butcher knife, 10" blade (per school).
30. One — Heavy-duty meat saw, 24" (per school).
31. Three — Plastic vegetable dishes (10x7x2).
32. Three — Combination cream pitcher and sugar bowl.
33. Two — Plastic platters, 14" (per school).
34. One — Cup, drinking, plastic, 8 oz. (per child).
35. Twelve — Saucers matching 8 oz. plastic cups, (per school).
36. One — Plastic soup bowls, 13 oz. (per child).
37. One — Non-mechanical water cooler (per classroom).
38. One — Paper cup dispenser for solo paper cups, non-conical (per classroom).
39. Two — Aluminum bread pans (2-3/4 x 5-3/16 x 9").
40. Two — Teakettles, 5 qt. size.
41. Four — Aluminum dishpans, 12 qts.
42. One — Hard maple cutting board, 3x18x24 (per school).
43. One — Meat cleaver, 7" blade (per school).
44. Two — Rolling pins (per school).
45. One — Dinner plate (per child).
46. Three — Rubber spatulas, 10" to 12" size.

B • • • • • • **(Items not listed for selection by the teacher that are recommended by the committee.)**

(Units of 30 children.)

47. One — Liquid soap dispenser (per school kitchen).
48. Two — Heavy duty can openers, capable of handling No. 10 cans, with extra cutters (per kitchen).
49. Two — Baking pans (maximum size, 11-1/2 x 16 x 2-1/2).
50. One — Stainless steel mixing bowl (2 qt.).
51. One — Stainless steel mixing bowl (3 qt.).
52. One — Heavy duty egg beater, steel gears (per school kitchen).
53. One — Aluminum colander, 15" diameter (per school).
54. One — Heavy duty flour sifter, 5 cup size.
55. Three — Muffin pans, 12 cup size.
56. One set — Stainless steelware, knife, fork, teaspoon, soup spoon (per child).
57. Two — Mixing spoons, 16".
58. One — Ice cream freezer, hand crank, 2 gallon capacity (per school).



59. Twelve — Dish rags, general purpose, mesh type cotton (per school, per year).

60. 24 — Bon Ami scouring powder, (per school, per year).

61. Twelve — Rectangular kitchen sponge, (per school, per year). 1-7/16 x 7-3/8 x 4-3/8.

62. Six — Push brooms, long handles (per school, per year).

63. Six — Small hearth sized brooms, (per school, per year).

64. One — Dust pan, hood pattern, wire handle.

65. Two — Wizard tongs for bread service.

66. One — Oven thermometer.

67. One set — Cookie cutters, assorted.

68. One — Kitchen tongs.

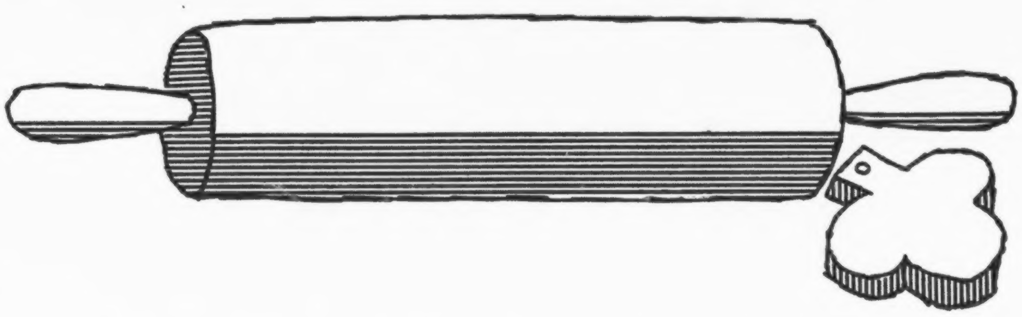
69. 4-1/2 yds. — Brightly colored denim for aprons, (makes three aprons, per cook, per year).

70. Two pkgs. — Heavy hair nets, elastic edge — 6 to pkg. (2 pkgs., per cook, per year).

71. One — Basket for all purpose sterilizing for use in sink compartment.

72. One — Ster-sil stainless steel basket with 6 nylon containers for sterilizing silverware. (for multi-teacher schools).

73. Two — Steri-sil nylon cylinders for sterilizing silverware. (for one-teacher schools).



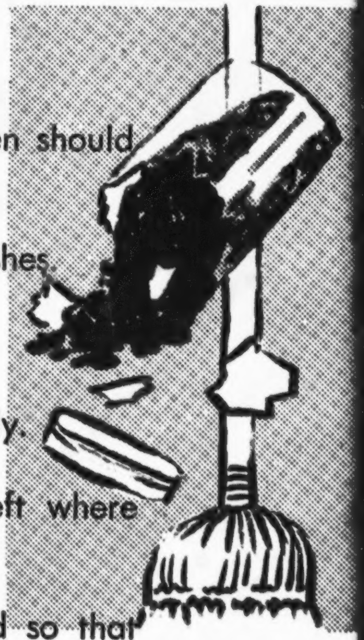
The committee recognizes that items #62 and #63 will vary in quantity with the individual schools. Quantities suggested on items #59, #60 and #61 were offered in terms of an average school and should be altered to suit the respective stations involved.

In addition to these items, the measuring utensils listed on page 77 should also be included.

Safety

SAFETY PRECAUTIONS

Every school lunch worker should do everything possible to make kitchen, lunchroom, and storeroom safe places in which to work. The following precautions should be observed:

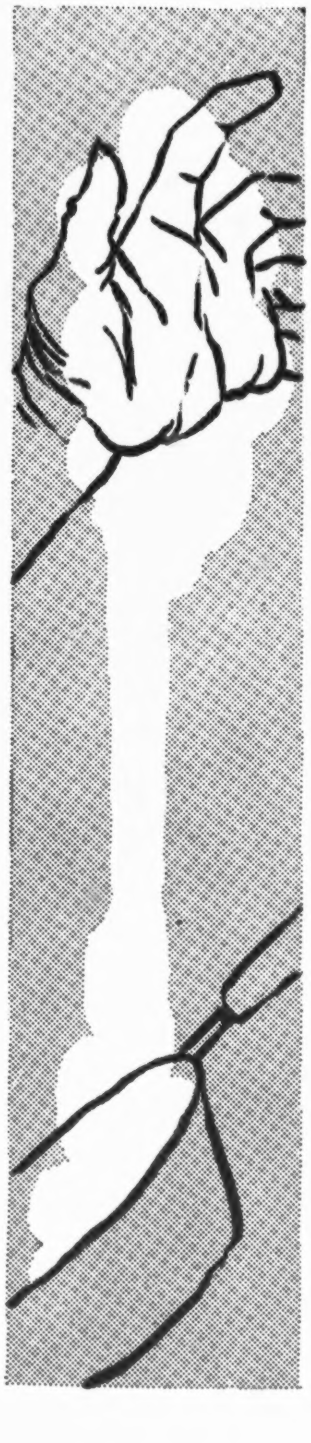


Broken glass:

Food in a glass jar or dish that has been broken should be thrown away.

Sweep up immediately any broken glass or dishes.

Burns:



Hot water faucets should be turned on cautiously.

Buckets or tubs of hot water should not be left where children or others may fall into them.

Handles of pans on the stove should be turned so that there is no danger of the pans being knocked over.

Pans with loose handles or rounded bottoms should not be used because food may be spilled and burn the worker.

Lids from steaming kettles should be removed by raising the farther edge of the cover first. Doing this keeps the steam from coming up in the face of the worker.

Before removing a hot pan from the stove, a place should be prepared to put it down and the flame should be turned off. The pan should be held firmly with pot holders, not with the uniform, apron, dishcloth or towel.

Pot holders should be kept dry. Handling a hot dish or pan with a wet holder causes steam to rise which may cause burns.

Before pouring boiling liquid into a glass jar put a metal spoon or knife in it and place it in the sink or dishpan. The boiling liquid may cause the jar to break and scald the worker.

Pressure cookers are safe if directions are carefully followed.

Sal soda and lye should be used cautiously. In some states safety regulations do not permit use of these materials.

Cuts:

Sharp knives should be kept in separate compartments. They should not be stored loose in a drawer.

Knives with loose handles should not be used since there is danger of the blade slipping.

A regular can opener should be used to open tin cans, and the can should be held in the proper position while being opened. Empty cans should be rinsed and stored at once.

Opened tin cans and sharp-edged pans should be handled with care.

Broken glass or broken dishes should be placed in a separate container, and not in the wastebasket.

Electricity:

Metal socket and electrical equipment should never be touched while the hands are wet or while the worker is standing on a wet floor.

An electric cord that is worn through to the wire should not be used.

Inspect electric cords frequently to locate frayed coverings and broken wires.

If an electric wire gets hot when used, it indicates danger and should be checked.

Enamelware:

Enamel pans that have been chipped are dangerous to use and should be discarded.

Falls:

Falling is a common form of accident. Workers should wear well-fitting shoes, with low heels, and keep the shoestrings tied. High heels cause the ankles to turn more easily. Run-over heels may cause accidents.

In icy weather, entrances and doorways should have ashes or sand sprinkled on them to prevent falls.

Loose boards of steps or floors should be nailed securely.

Any water, grease, vegetable parings, or bits of food dropped on the floor should be cleaned up immediately. They may cause workers to slip and fall.

Workers should not stand on chairs or on open drawers. Strong kitchen stepladders should be used.

Stair rails should be used to avoid slipping or falling.

Stairs should be kept well lighted and kept clear to prevent stumbling and falling.

Boxes, mops, brooms and other articles should not be left for a moment where workers might stumble over them.

Paint the top and the bottom basement steps white as a safety measure. They can be seen more easily in a dim light.

Shelves and cabinets should not be overloaded.

Dishes, cans, containers, and other articles on shelves should be firmly placed so they will not fall if jarred.

If linoleum becomes torn or broken, have it repaired before it causes accidents.

Have broken places in floors repaired promptly.

Use wax sparingly and see that it is polished properly so that it will not be slippery.

Fire and explosions:

Know where fire extinguishers are located and how to use them. See that they are recharged regularly.

DO NOT WORK IN A KITCHEN WHICH IS WITHOUT ADEQUATE FIRE PROTECTION!

Keep stove, stove pipes, and chimneys clean. Have stoves inspected often for defects. Do not allow stoves to become overheated.

Curtains or other flimsy materials should not be hung near a stove because they might blow into the flame.

Towel racks and clotheslines should not be placed near the stove.

Kerosene should be used cautiously if at all, and should be stored away from the kitchen in safety cans.

Oily rags should be kept in tightly covered metal containers if it is necessary to have them.

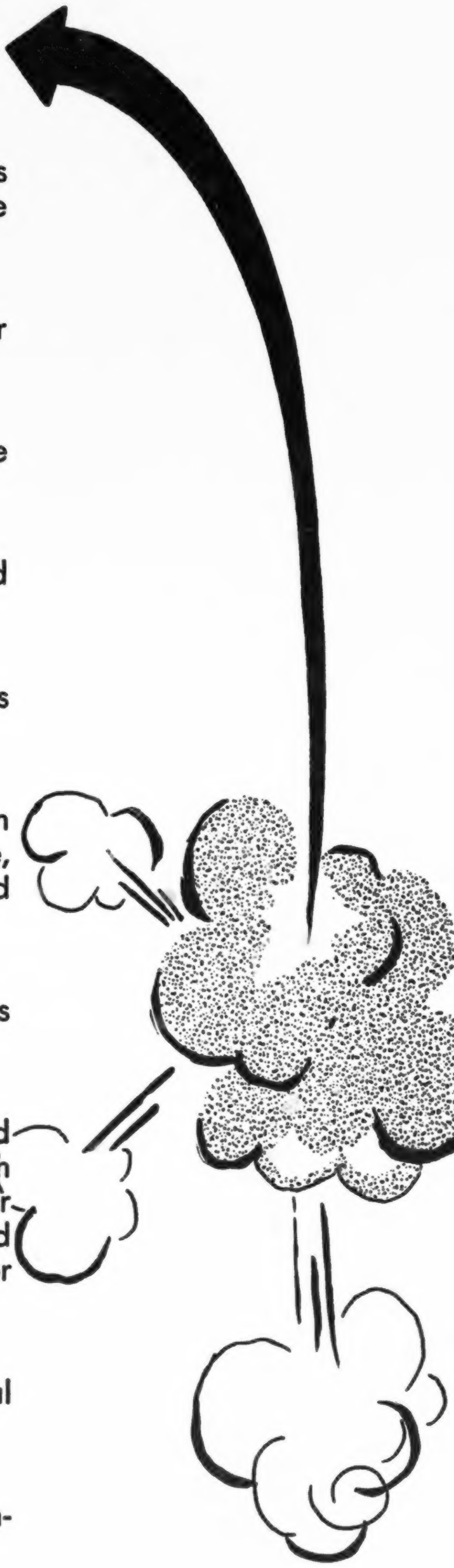
Fats catch fire easily. It should be slosely watched in broilers or in pans on top of the stove. If fat catches fire, spread baking soda or salt over the flame. Water should never be used.

Paraffin catches fire easily and will explode if it becomes too hot.

To prevent explosions, doors of gas ovens should be opened when the oven burners are being lighted. The match should be lighted before the gas is turned on. Never look for gas leaks with a lighted match or candle and never light a match in a room where there is a strong odor of gas.

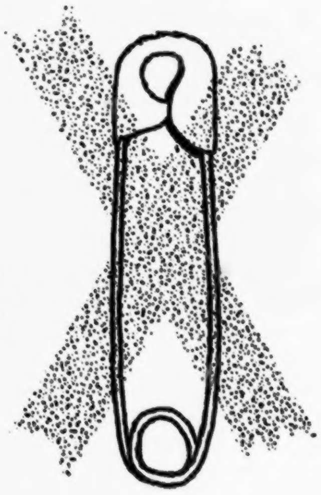
Unused matches should be kept in tightly covered metal containers.

Gas-stove jets and electric-stove switches should be completely turned off when not in use.



Pins:

Pins should not be used to fasten clothing. They may fall into the food and be swallowed by the children.



Splinters:

All rough edges of wood should be smoothed by being rubbed with sandpaper, because splinter wounds frequently become infected.

Strain:

Heavy equipment, boxes, or bags should not be moved or lifted without help, and lifting should be done by bending the legs instead of the back.

The Bureau of Labor Statistics of the United States Department of Labor reports that compared with commercial restaurants, school lunchrooms have unfavorable injury records. Commercial restaurants have a rate nearly 40% better than the rate for school lunchroom. Generally, injuries to school lunchroom workers are not as severe as injuries to other government workers.

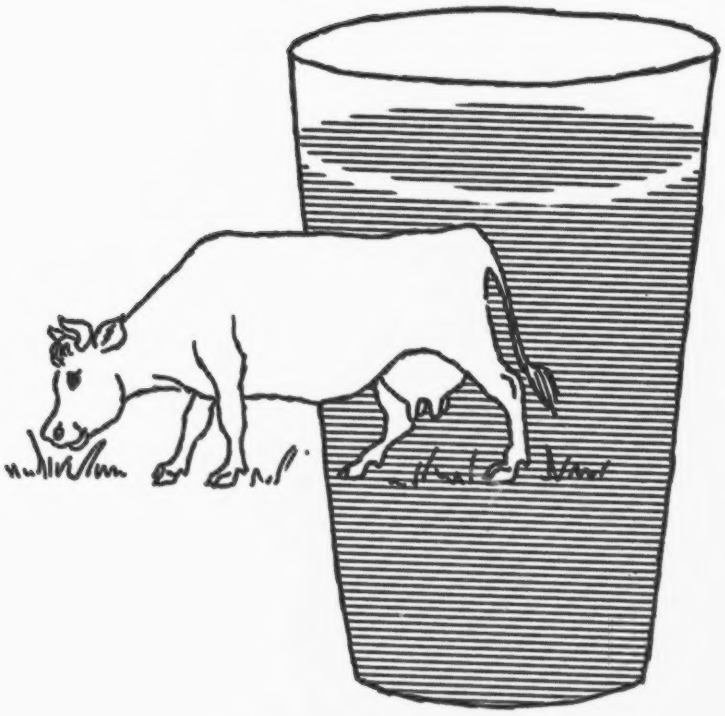
School lunchroom workers have more strains and sprains than any other kind of injury. These are often severe injuries. Cuts, lacerations, bruises, contusions, burns, and scalds are also common, but seldom severe.

These statistics point to definite areas in which care should be exercised. Proper lifting and moving of heavy objects should be given particular attention. Have help whenever possible.

POISONS: KEEP ALL POISONS AWAY FROM THE KITCHEN.

Safety

According
to the
United States
Department
of
Agriculture



NONFAT DRY MILK

Nonfat dry milk is a wholesome dairy product made from fresh milk. Only the water and cream are removed. It has the calcium and other minerals, and B vitamins, natural sugar, and high-quality protein that make liquid skim milk such valuable food. Use dry milk as a beverage and in cooking.

How to make fluid skim milk:

Dry milk can be mixed quickly with water to make fluid skim milk. Start by putting the measured amount of dry milk on top of the measured amount of lukewarm water for the amount of milk needed. Beat well, or shake the water and dry milk together in a tightly closed jar. KEEP COOL AND USE WITHIN ONE HOUR AFTER MIXING.

The amount of dry milk to use to replace various amounts of fluid milk are given below:

FOR	USE
1 quart milk	1 cup dry milk, 4 cups water
1 pint milk	1/2 cup dry milk, 2 cups water
1 cup milk	1/4 cup dry milk, 1 cup water
1/4 cup milk	1 tablespoon dry milk, 1/4 cup water

Use dry milk in recipes: In any recipe calling for milk, you can simply ADD THE DRY MILK TO OTHER DRY INGREDIENTS. Sift to blend, then add water for the required amount of liquid.

ENRICH YOUR COOKING WITH DRY MILK:

Step up the food value of some dishes with extra amounts. Dry milk can even be added to fresh milk in some recipes. Here are ways to use dry milk in your everyday cooking:

COOKED CEREALS	Add 1/4 to 1/2 cup to each cup of cereal before cooking.
MEAT LOAF, HAMBURGERS, ETC.	Use 1/4 to 1/2 cup per pound
MASHED POTATOES	Mash, then add 1/4 cup of dry milk to each cup of potatoes. Use, either water the potatoes were cooked in, or fresh milk, to give right consistency.
WHITE SAUCES AND CREAM SOUPS	Use 4 tablespoons with each cup of milk.
CUSTARD, PUDDINGS, BEVERAGES, ETC.	Use 4 to 5 tablespoons with 1 cup of milk called for in the recipe, or add 2 to 4 tablespoons to each cup of fresh milk.

DRIED WHOLE EGG SOLIDS

(STABILIZED)

Dried whole egg is now being offered by the U. S. Department of Agriculture to school lunch programs. The dried egg is freshly packed from carefully inspected, high quality fresh eggs. The egg has been spray dried and stabilized by processors operating approved establishments under the continuous inspection and laboratory analysis of the Poultry Division of the Agricultural Marketing Service. Stabilization is a process of glucose removal which improves the keeping quality of the egg.

Packaging:

The dried egg is packed in No. 10 cans, three pounds per can, which is the equivalent of approximately 100 shell eggs.

Food value:

Dried egg has practically the same food value as shell eggs, including iron, Vitamin A, protein of good quality, thiamine, riboflavin and other essential B vitamins. Only water and the shell have been removed.

Storage:

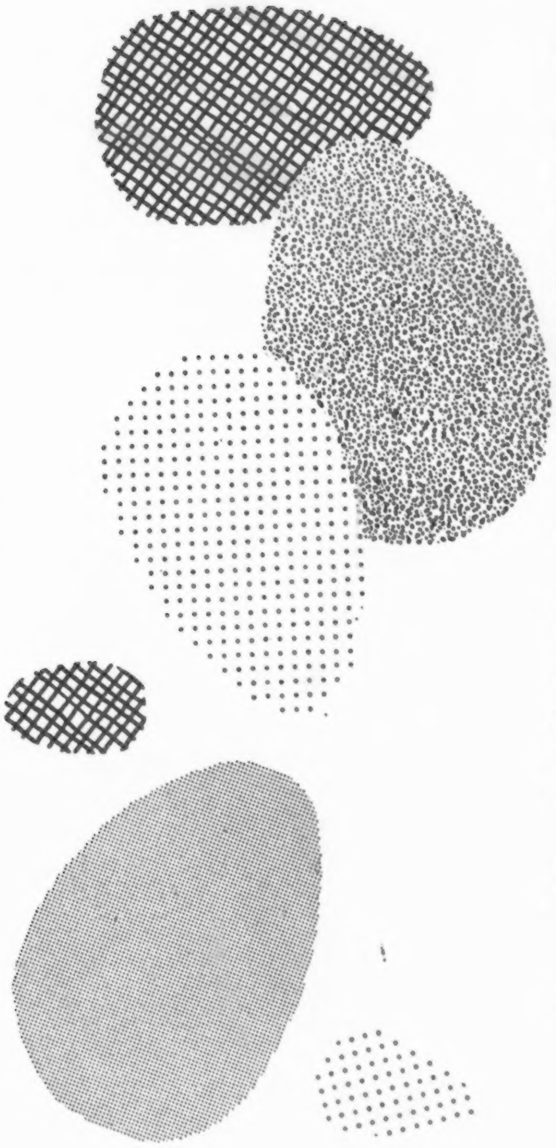
STORE THE DRIED EGG IN THE REFRIGERATOR AT 32° to 50° F. After opening a can, store any unused powder in the refrigerator in a tightly covered container. This will prevent the dried egg from taking up moisture from the air and absorbing flavors from other foods. (Dried egg that has taken up moisture may become moldy. It also becomes lumpy and will not mix readily with liquid).

Precaution:

Use the dried egg ONLY IN THOROUGHLY COOKED DISHES such as baked breads, long-cooked casseroles, and baked desserts. DO NOT USE the dried egg in egg-milk drinks, uncooked salad dressing, creamed puddings, soft custards, ice creams, omelets, or scrambled eggs when cooked on top of the stove. (See D-44, Type-A Lunch Recipes for baked scrambled eggs).

Reconstitution:

When liquid is added to replace the liquid taken out, the dried eggs can be used in place of shell eggs in many recipes. There are two methods of reconstitution:



(1) COMBINE WITH DRY INGREDIENTS:

For products using several dry ingredients, dried egg may be sifted with the other dry ingredients. The water needed to reconstitute the dried egg is added to other liquid in the recipe. Weigh the dried egg called for or sift and measure before combining with other dry ingredients, being careful to use exact weights or level measurements. Dried egg used in dry mixes prepared in advance should be STORED IN THE REFRIGERATOR, (32° to 50° F.) in a tightly covered container.

(2) RECONSTITUTE WITH WATER:

In other recipes, the dried egg is reconstituted and used like shell eggs. Weigh the dried egg called for or sift and measure, being careful to use exact weights or level measurements. Sift the dried egg again and sprinkle over the required amount of water; beat to blend with a rotary beater, wire whip or power mixer.

Mix only the amount of dried egg needed for the recipe being prepared as the **reconstituted egg will not keep.**

Note: **Promptly wash** sifter and other utensils used in the preparation of dried egg dishes.

Dried whole egg		Water		Shell egg equivalents
1/2 oz. (2-1/2 tbsp. sifted)	+	2-1/2 tbsp.	=	1
3 oz. (1 cup, sifted)	+	1 cup	=	6
6 oz. (2 cups, sifted)	+	2 cups	=	12

(From SCHOOL LUNCH RECIPES USING DRIED WHOLE EGG SOLIDS, United States Department of Agriculture Food Distribution Division, Revised, June, 1959)

A special booklet with recipes using dried eggs is in the School Lunch Packet. Refer to it for many helpful recipes.

BEANS ARE GOOD!*

Beans provide energy. They are a food that "sticks to the ribs" — food that gives what it takes for work and play.

Hints on Bean Cookery:

Use soft water — the degree of hardness of water is the most important factor to consider in cooking beans. Use the softest water obtainable for a delicate flavor. Always use soft water to soak beans as well as in cooking them.

To soften hard water, you may use the simple method of boiling water vigorously for a period of 20 to 30 minutes in a closely covered kettle. This causes some of the calcium and magnesium salts to settle out. These salts seem to have the effect of hardening the beans.

Use as small an amount of water as possible in cooking beans. Tests show that the more water you add, the harder the beans become.

If beans are soaked, use soaking water for cooking.

Best cooking time. There is a certain time during cooking at which the beans will be more tender than at any other. If cooked longer, they will actually become harder rather than softer, since then it will be necessary to add more water.

Check cooking time — Cook beans 2 to 5 hours at 3900 feet. At lower elevations cook for a shorter time; at higher elevations, for a longer time.

To test "doneness." Taste whole, well-plumped bean. It should have a tender skin, and it should be mealy.

Be careful not to overcook beans.

Time of adding salt — Add salt 15 to 30 minutes before beans are done. Use less salt if water is hard.

Salt contains calcium and magnesium that tend to harden beans.

The use of soda is not recommended in cooking beans. Soda makes the skins of beans more tender, but it destroys the thiamine.

*GALLUP FOOD TOPICS

PART II
THE LEARNING

Christina Rossetti said:

"He who has never known hunger

Has never known how good

The taste of bread can be,

The kindness of food."

With apologies to Miss Rossetti,
we as school people, say:

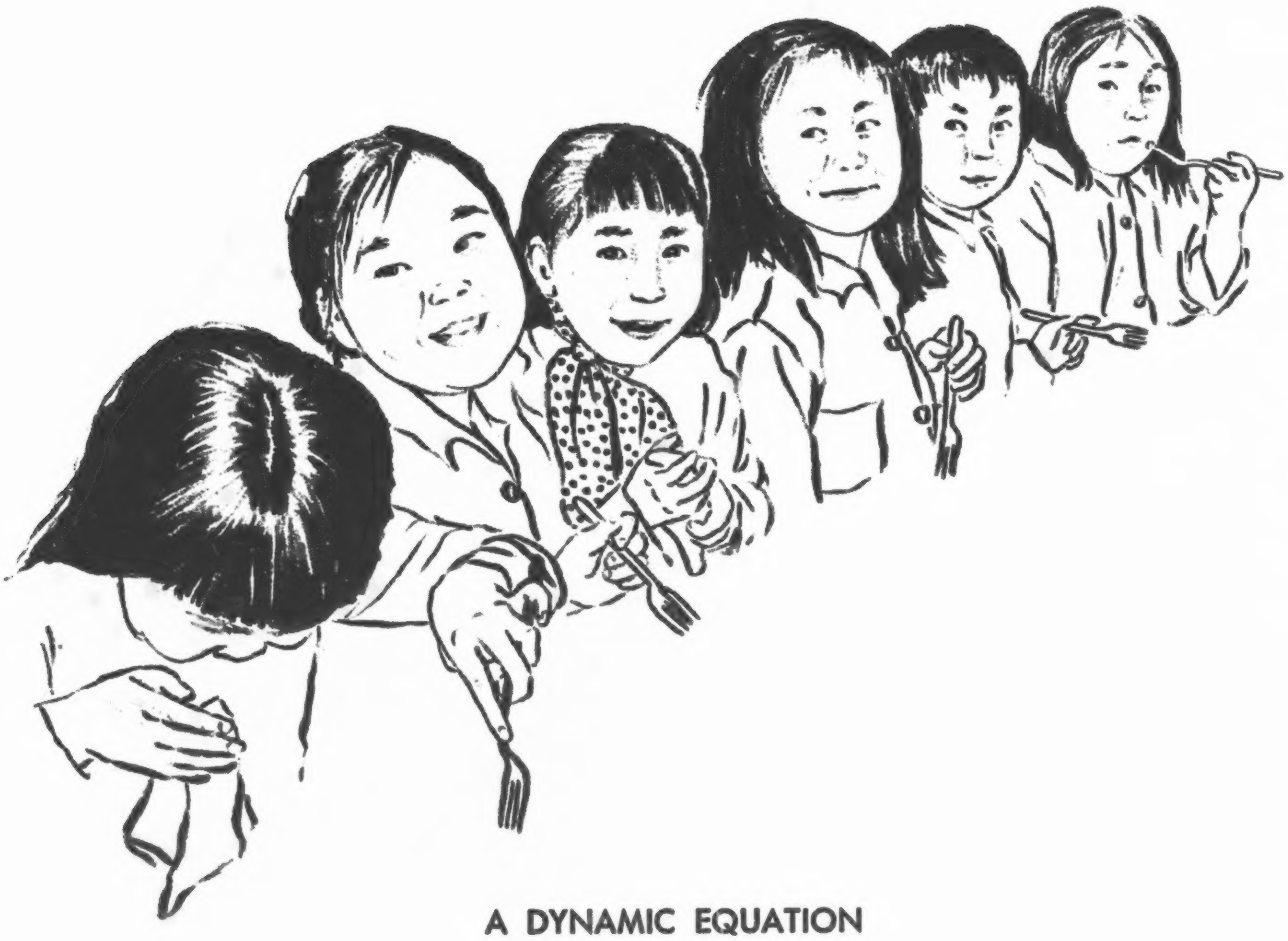
He who has never taught a hungry child,

Has never known how close

Can be the kinship between

A glass of milk and the act of learning.

Introduction



A DYNAMIC EQUATION

The blending of eating and learning can result in dynamic, meaningful experiences which may not be available to the child under any other circumstances. Eating is undeniably one of life's most enjoyable pursuits. The teacher who fails to take advantage of the opportunity to associate learning with this pleasure-giving activity might be compared to the Russian sea captain of the Vitus Bering Expedition who let many members of his crew die from scurvy despite the fact that life-saving antiscorbutic plants were to be had for the gathering on the nearby Alaskan shore. Many linguistically handicapped children perish educationally for the reason that concepts presented in books are too often unrelated to their life experiences.

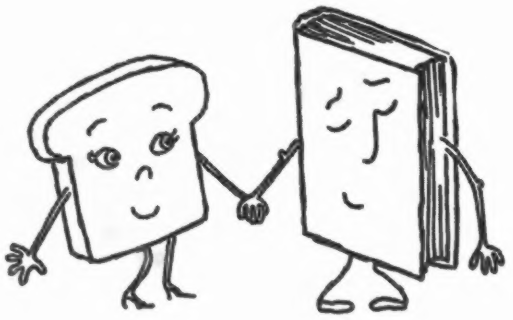
The Build-up to Dropouts

The reading symbols of a strange language can flash no pictures to the consciousness of a child who has lived and learned in an environment and a culture wholly different from that mirrored in the reading matter. So, though the learner may open his books with eagerness, interest soon can be lost when a forest of words which create no visual imagery is encountered. Boredom moves in to fill the vacuum and the baffled reader discards his books to go and learn from the fascinating world of the tundra, the forests, the streets. There he hears a language he understands.

Two Powerful O's

How wise then is the teacher who seizes the matchless opportunity offered by the school lunch program to relate classroom learning to stimulating experiences.

Added to Opportunity is the Obligation to justify the school time spent in operating the lunch program. Since this time can be spent in eating **and** learning, it can not, in all justice, be spent in merely **eating.** To quote from a speech given by E. Allen Bateman of the National Conference on School Lunch and Direct Distribution Programs, "The time has arrived when the main purpose of food service programs in our schools should shift from that of being a gastronomical filling station to that of being an important educational experience."



A Natural Affinity

Correlation of the academic and the school lunch programs, is eminently logical and can be accomplished with such ease that even the most tradition-bound teacher would have difficulty keeping the two apart once they got into the same educational stewpot.

The teacher who undertakes to shift the emphasis in the school lunch program from feeding to learning will find that in correlating academic concepts with this on-going activity numerous highly rewarding learning experiences will become woven into the daily program. Through such experience, the students will master many concomitant understandings painlessly.

MINIMUM ESSENTIAL GOALS WHICH MAY BE CORRELATED WITH THE SCHOOL LUNCH PROGRAM

Level:	Beginners	One	Two	Three	Four	Five	Six
Goal	9	3 35	3 35	1 45	1 49	5 51	11
	11	4 36	10 36	4 46	7 50	7 55	13
	12	9 39	12 37	9 47	18 51	8 56	15
	13	10 43	14 38	13 50	23 62	12 57	20
	14	17 46	15 39	14 59	24 64	13 59	29
	15	18 47	16 42	20 61	29 67	14 67	34
	16	20 48	17 47	21 62	31 69	23 68	43
	23	24 49	18 48	23 63	34 70	25 71	51
	24	26 50	19 49	25 64	36 76	29 73	65
	25	27 51	20 50	26 65	38 77	31 74	
	28	28 52	21 51	28 66	39 78	49 75	
	29	29 55	29 52	29 67	40 79		
	31	30 56	31 54	31 69	48 80		
	34	31 65	34 55	32 70	86		
	37	32 66		33 71			
	38	33 67		34 76			
	45	34 68		35 77			
		69		36 79			
				37 84			
				44 85			

MINIMUM ESSENTIAL GOALS WHICH MAY BE CORRELATED WITH THE SCHOOL LUNCH PROGRAM

Level:	Seven and Eight		
	Civic Responsibilities	Arithmetic	English
Goal	1 46	1	3
	4 48	2	4
	5 49	3	5
	6 54	4	6
	9 74	5	9
	10 76	6	13
	14 80	7	15
	15 81	13	16
	16 83	15	17
	17 89	17	21
	21	22	22
	22	35	28
	25	40	30

Teacher - Pupil Planning

"LET US TALK ABOUT THIS."

In the strictly traditional classroom the most frequently heard teacher phrases are, "I want," and "you will do." Pupils trained in this atmosphere may be long on factual learnings but the chances are they will be short on personal initiative and creativity. In a more healthfully permissive classroom, the teacher is frequently heard to say,

"What do you think we should do about this?"

or

"Let us talk about this and see what we can do."

"You think" and "we" are the key words which lure students into thinking through decisions.

The school lunch program with its daily, recurring, concrete problems can be used as an open invitation to students to join the teacher in planning sessions related to matters of compelling interest o every pupil.

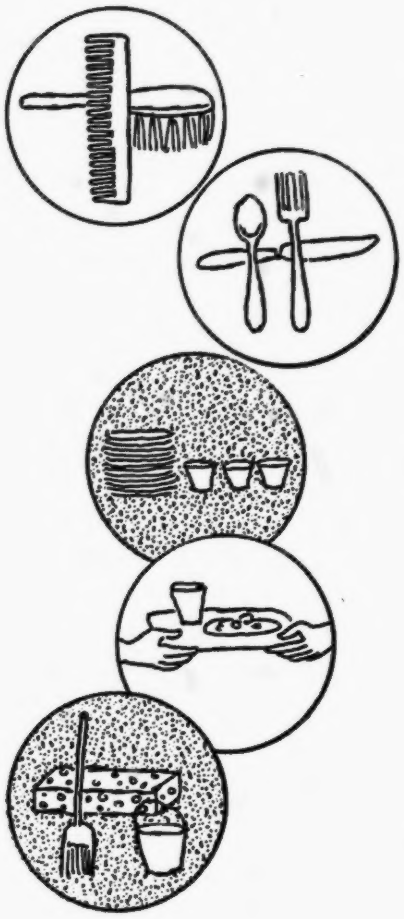
Planning Readiness:

In he early stages of teacher-pupil planning the teacher need not be discouraged if student suggestions are not advanced with effortless spontaneity. After all, the learner who has eaten in another language and another culture for the first six years of his life is now moving into an unfamiliar world where the language is unintelligible and the food is downright queer. Thus handicapped he will be reluctant for some time, despite genuine interest, to express his ideas. This reluctance is not characteristic of the primary pupils only. The more advanced students have had more time to develop a crippling fear of being ridiculed. They have an even higher resistance level to spontaneous participation. But the teacher who understands this, and who is also very much aware that cooperative planning is a skill which must be developed from embryo, to readiness, to full blown participation, will cheerfully continue to jump through educational hoops until shy-learner reluctance to express opinions is overcome. Who that has followed the tragic fumblings of world planners can deny that time and effort spent in developing this skill, even in the very young, is justifiable?

Planning the Daily Chores

The imaginative teacher gratefully accepts the daily chores which must be carried out in connection with the lunch program as a shining heaven-sent tool upon which pupil planning skills may be sharpened. These tasks present an unparalled opportunity for talking about problems of immediate concern to the group; for making pupil level decisions which can be put into action at once and evaluated in the light of tangible, observable results.

Teacher-pupil planning may set up routine procedures for such necessary chores as:



1. Personal preparation for lunch
2. Setting the tables
3. Arranging the serving counter
4. Serving the food
5. Cleaning up

Planning for Correlated Activities

Special days.

Observance of special days may be effectively integrated with the lunch program. Such occasions give the alert teacher an opportunity to involve students in planning activities which are of more than usual interest to them:

1. **Decorations**

   Napkins and place cards may be decorated in art classes.

2. **Favors**

   (This may be a special treat in the form of a tidbit appropriate to the occasion, e. g., turkey, figs on Thanksgiving).

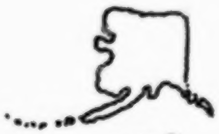
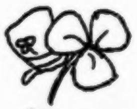
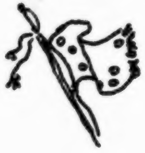
3. **A short program**

   This may be a culminating activity to a social studies unit related to the special day, and may include; songs, stories, reports, choral readings and other learnings with entertainment value, which have been mastered through the development of the unit.

4. **Invitations to, and entertainment of guests.**

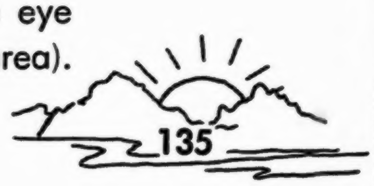
   Written invitations may be sent.
   A host and hostess may be selected by the students.
   Duties of each may be decided upon through group study and discussion.

Special days which have implications for the effective use of the school lunch in integration with the total school program:

	October 12	Columbus Day
	October 18	Alaska Day
	October 31	Halloween
	November 11	Veteran's Day
	November	Thanksgiving
	December 25	Christmas
	February 12	Lincoln's Birthday
	February 14	St. Valentine's Day
	February 22	Washington's Birthday
	March 17	St. Patrick's Day
	March 30	Seward's Day

A birthday lunch each month for all children having a birthday during that month.

And certainly that glorious day when the returning sun opens one eye and blinks at the Arctic tundra. (Consult the Weather Bureau in your area).



Making Choices

At the middle and upper grade levels a study of the menu for the week or month may inspire imaginary teacher-pupil journeys to places where the foods are produced. This will require choices. Foods to be studied and the various related subjects which may be integrated should be selected, but not collected. The road stretching between the consumer and the producer will be found paved with many concepts. Arithmetic, science, geography, language, health, and even history are waiting for the learner. Careful teacher-pupil planning will be necessary to avoid a confused flitting from subject to subject.

Motivation in Planning

Expressed pupil interest is the signal to initiate a planning session, but the wise teacher does not sit back and wait for interest to blossom unaided. Stimulants are employed. The day dried peaches appear on the menu, pictures of blossoming peach trees may appear on the bulletin board. The day corn bread is served an ear of corn may be put on display. Students who have been encouraged to be curious will ask questions. This can be a signal to the teacher to steer the learners toward the development of plans for research and study.

Language

GOOD FOOD EVER LOOSENS THE TONGUE

The possibilities for the development of communication skills through the school lunch program are inexhaustible. The beginner is first introduced to the names of foods and utensils. As he progresses through the grades he gropes through the difficulties of verb tenses and over the hurdle of singular and plural forms. Along the way he acquires a somewhat distant acquaintance with adjectives and articles. By the time he reaches the eighth grade, if he has not been downed by those annoying little prepositions which put something **in** a pan when it is clearly **on** it, he is ready to do battle with a dash of paprika and a trace of mace. He even may understand eventually that a dripping pan is not necessarily one which leaks.

The Daily "I Wills."

If teacher and pupil pursue the language of eating with relentless zeal from the first grade through the eighth, the school lunch program can make an amazing contribution to the students' linguistic progress. The teacher who wishes ot realize its full value to academic learning will:

1. MAKE DAILY USE OF EVERY PHASE OF THE LUNCH PROGRAM TO FURTHER LANGUAGE DEVELOPMENT.

During the first months of school the services of an interpreter may be used with the non-English speaking beginners. The janitor or an older student may be called upon to assist the teacher.

In the beginning, the names of food are taught as they are served. The interpreter may explain to the children that they are going to learn "to eat in English." Since a food that is served daily will afford more opportunity for repetition, **milk** should be the first word presented. As the beverage is placed before the learner the teacher may say:

"This is milk."

Each child individually repeats the sentence. At first he may say only the one word, "milk." The teacher accepts this answer until the learner demonstrates independent mastery of the word by correctly naming the food without prompting. The teacher then begins to insist that the complete sentence,

"This is milk."

be given in response. The English names for he silver and serving dishes used are taught in the same manner.

If cardboard cutouts or pictures of a place setting, and of the foods that have been presented are given to each child, more advanced pupils may assist study groups with vocabulary practice. The flannelgraph is an invaluable teaching aid in language development activities. While new words should be presented with real objects whenever possible, pictures or cutouts, in many instances, are more practical in review work.

2. USE THE CONTINUOUS ACTION OF THE LUNCH PROGRAM AS A REFERENCE FOR TEACHING VERB TENSES.

Pupils who have mastered a working vocabulary of nouns and action words, may be introduced to verb tenses. While the lunch hour is in progress:

The children may say:
"We are drinking milk."
After studying the next day's menu they may say:
"We will drink milk tomorrow."
The teacher may ask:
"What did you drink yesterday?"

The children answer:

"We drank milk yesterday."

3. EXERCISE CARE TO SEE THAT PUPILS MASTER NEW LANGUAGE CONCEPTS AS RAPIDLY AS MATURITY AND RATE OF ACHIEVEMENT PERMIT.

The child who is allowed to tell about the same objects, or actions, using the same words and sentence structure long after he has demonstrated ease in performance is being cheated of progress. Review should be frequent, but teacher plans should provide for systematic presentation of new words and concepts.

4. PLAN AND CARRY OUT MANY RELATED ACTIVITIES DESIGNED TO PROMOTE LANGUAGE GROWTH. PUPILS MAY:

a. Explain to visitors how the lunch program is conducted.

b. Tell how certain foods are produced and marketed, e.g., one pupil might tell **The Story of An Apricot,** through comic strip drawings.

c. Explain to a newly appointed committee how to perform certain tasks such as how to set the table.

d. Compile individual, illustrated vocabulary booklets.

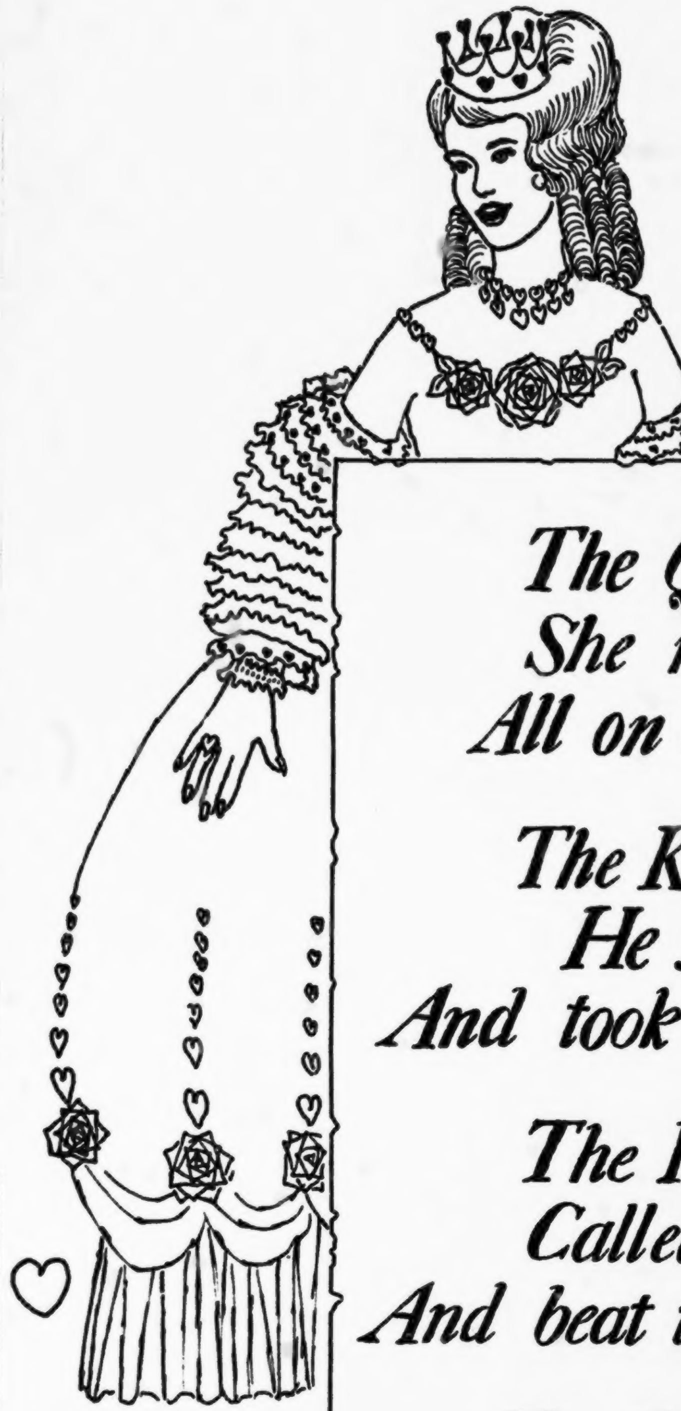
"Hey! Diddle, Diddle"

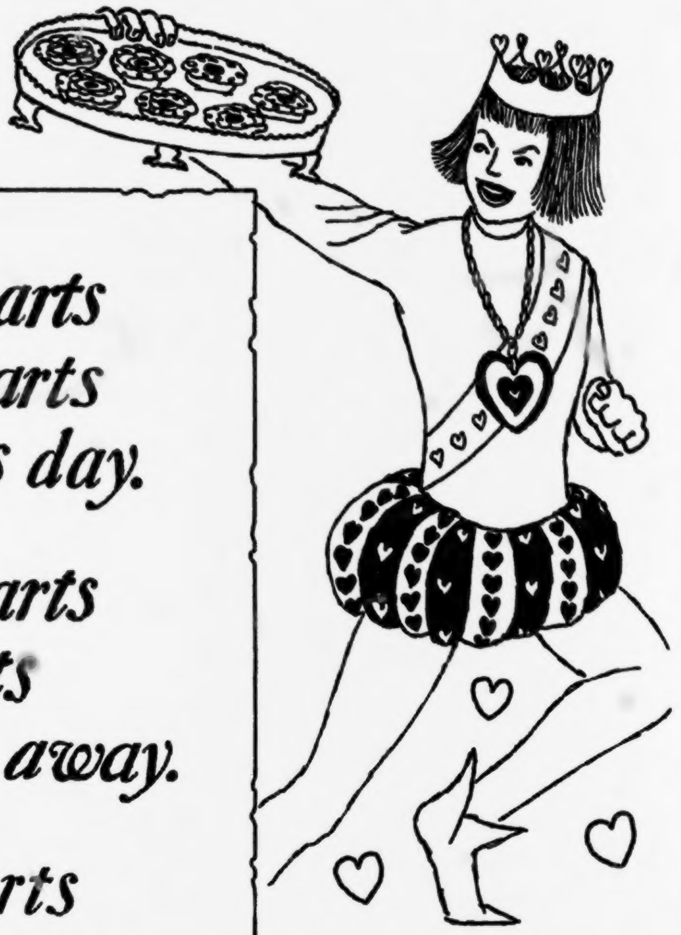
The pros and cons of employing teacher aides fill columns in current professional and popular magazines, but there is one teacher aide who has assisted generations of school masters and marms without having stirred a whisper of an argument as to her value to the educational program. She is known by the delightful name of Mother Goose. The melody of her rhymes has lured millions of young ones into an enchanted land of nonsense where learning lightheartedly rides away to Banbury Cross upon a cock horse taking willing Learner along. The whereabouts of Banbury Cross, or the nature of cock horse, matters not at all to the young rider. What does matter to the teacher of bilingual students, is Mother Goose's superb ability to beguile the Learner into picking up the rhythms of the English language; into sorting out the sounds of his "t's" and "d's"; into injecting characteristically guttural speech with sounds which must be made with tongue, teeth and lips. It is difficult to articulate such words as "Simple Simon met a pieman going to the Fair, Said Simple Simon . . . . . etc." with throat muscles alone.

The granting of kitchen privileges to Mother Goose and her brood will bring a reassuring warmth to the lunch program and a lilting gaiety to speech training. Shyness is forgotten through dramatization. When the Learner sits in the corner as Little Jack Horner, the difficulties of speaking in a second language become Jack's problem and the Learner experiences a new ease and freedom in articulating the English sounds.

MOTHER GOOSE:

The Teacher's Friend



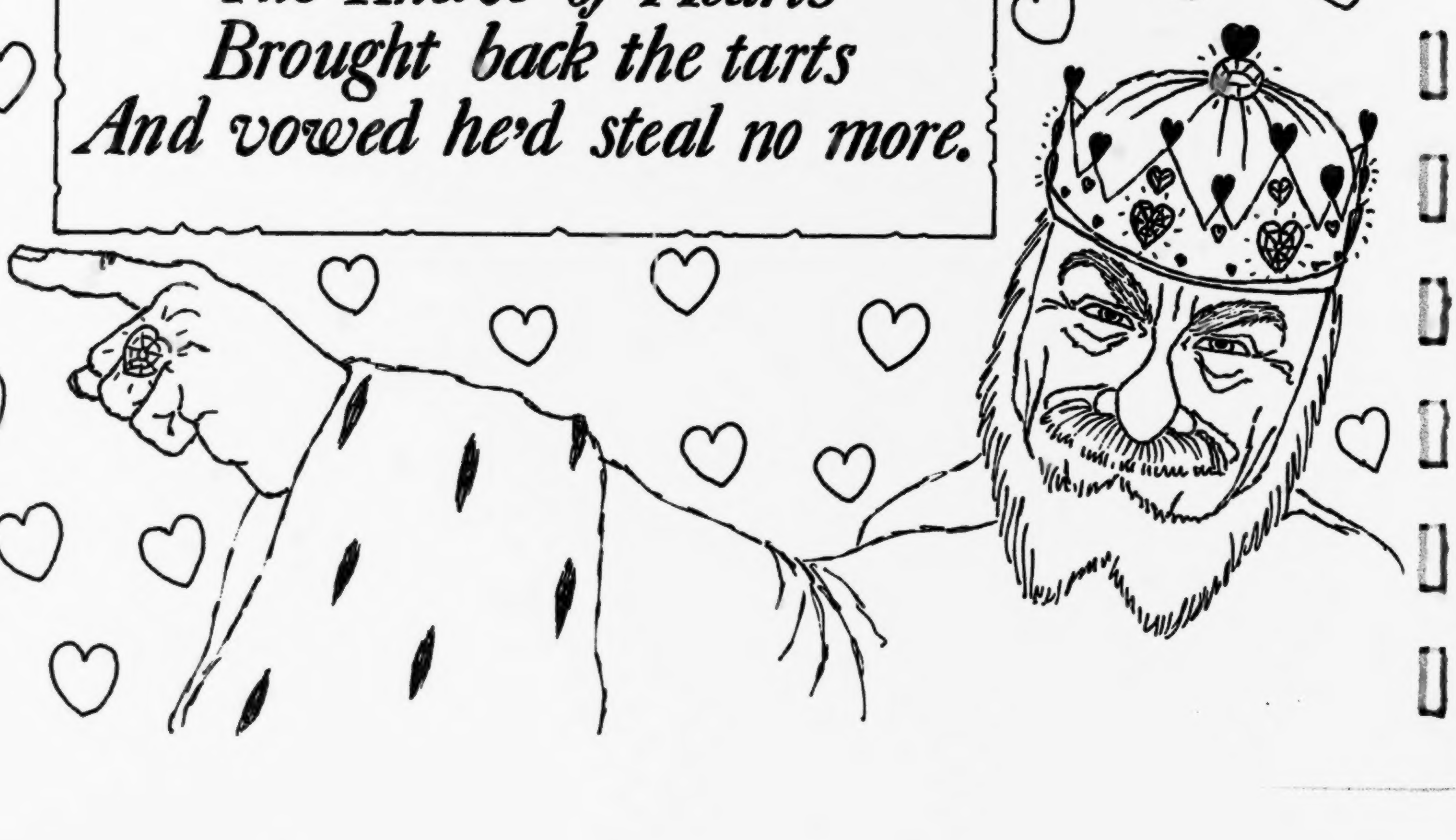


The Queen of Hearts
She made some tarts
All on a summer's day.

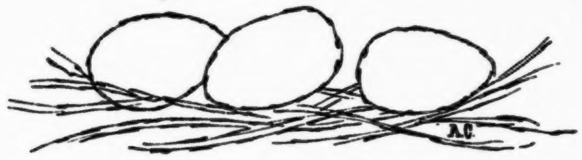
The Knave of Hearts
He stole the tarts
And took them clean away.

The King of Hearts
Called for the tarts
And beat the Knave full sore.

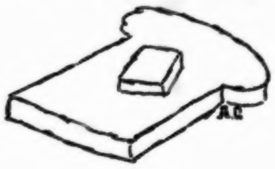
The Knave of Hearts
Brought back the tarts
And vowed he'd steal no more.



Hickety, pickety, my black hen,
She lays eggs for gentlemen.
Gentlemen come every day
To see what my black hen doth lay.

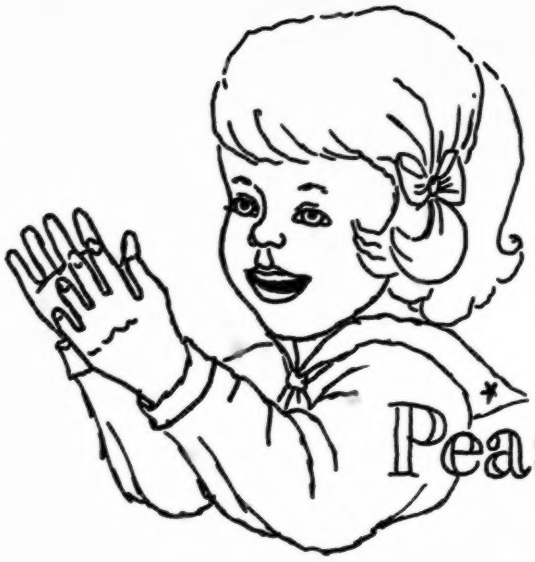


Little Tommy Tucker
Sings for his supper.
What shall he eat?
White bread and butter.

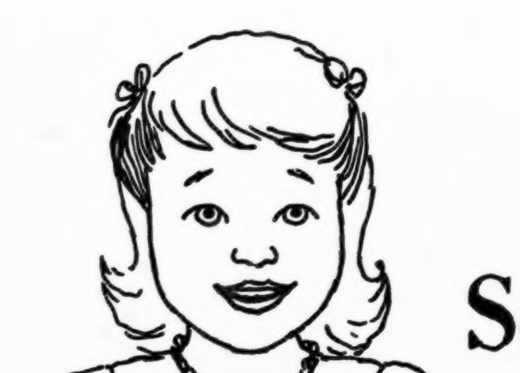


Polly put the kettle on,
Polly put the kettle on,
Polly put the kettle on,
And let's have tea.

Little Jack Horner
Sat in the corner
Eating his Christmas pie;
He put in his thumb
And pulled out a plum
And said, "What a good boy am I!"



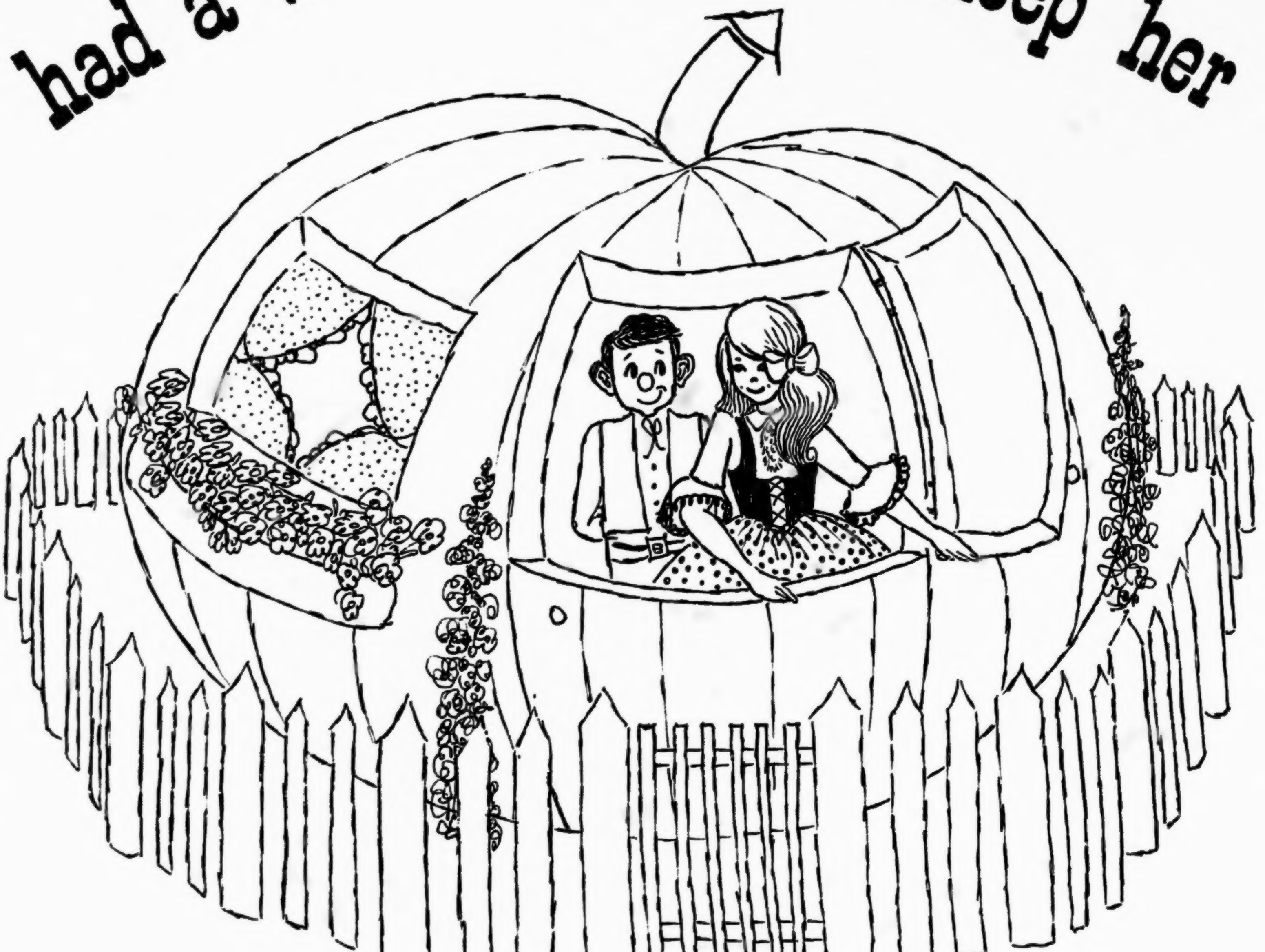
Pease porridge hot
Pease porridge cold
Pease porridge in the pot
Nine days old



Some like it hot
Some like it cold
Some like it in the pot
Nine days old

Peter, Peter Pumpkin Eater

had a wife and couldn't keep her

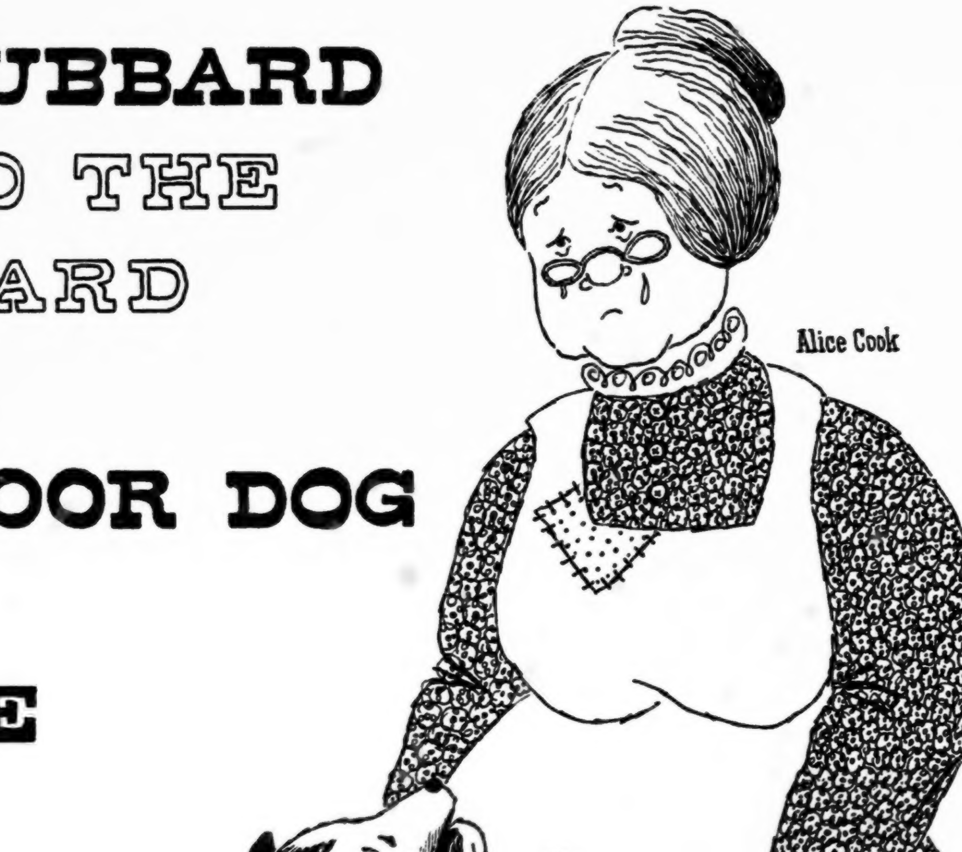


put her in a pumpkin shell

and there he kept her very well.

OLD
MOTHER HUBBARD
WENT TO THE
CUPBOARD
TO
GET HER POOR DOG
A
BONE

BUT
WHEN
SHE
GOT
THERE
THE
CUPBOARD WAS BARE, AND
SO THE POOR DOG HAD NONE.

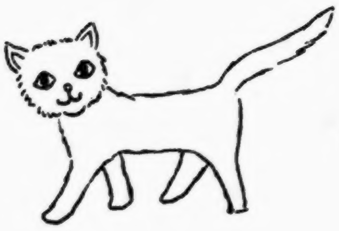
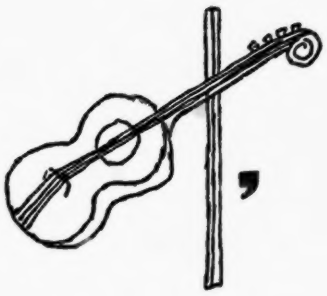

Alice Cook

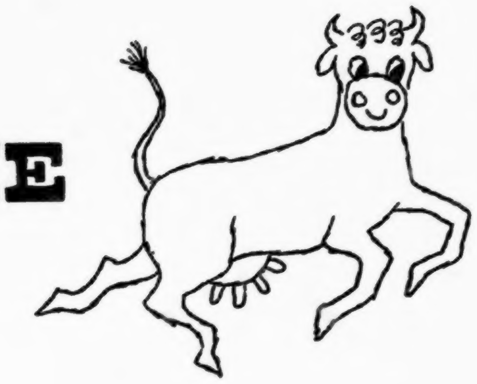
Simple Simon met a pieman,
going to the fair. Said
Simple Simon to the
pieman, "Let me taste
your ware". Said the pieman to Simple
Simon, "Show me first your penny".

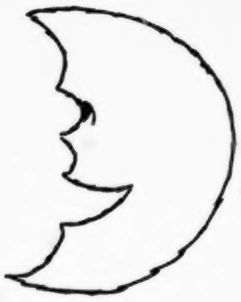
Said Simple Simon to the
pieman, "But sir,
I
haven't
any".

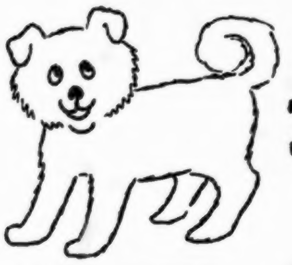
Alice Cook

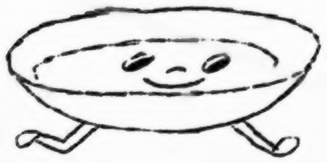
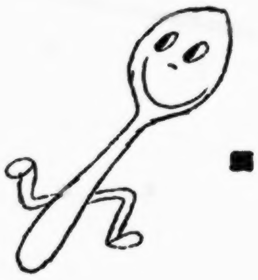
HEY, DIDDLE DIDDLE

THE  AND THE ,

THE  JUMPED

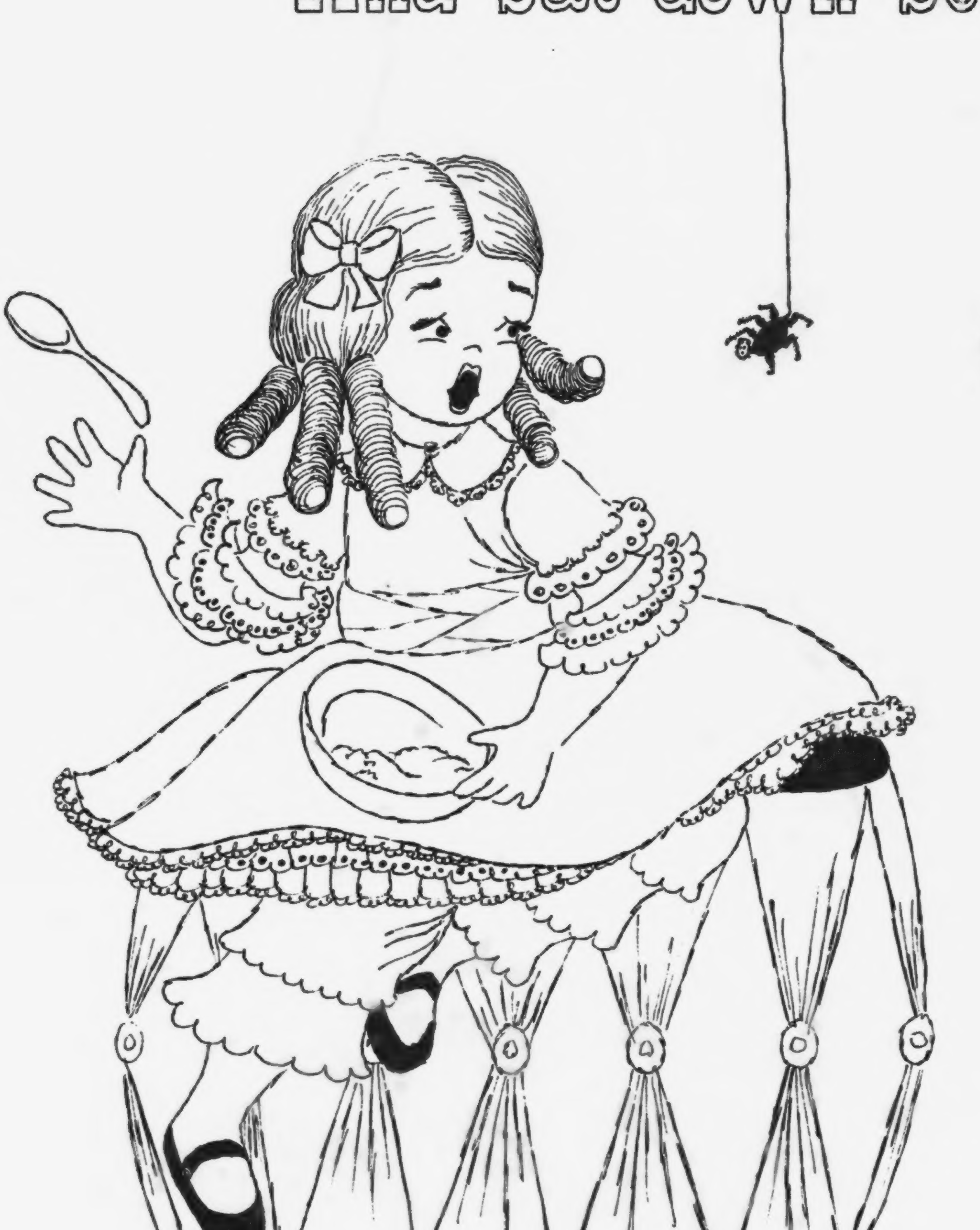
OVER THE .

THE LITTLE  LAUGHED
TO SEE SUCH SPORT,

AND THE  RAN AWAY
WITH THE .

Alice Cook

Little **Miss Muffet**
Sat on a tuffet
Eating her curds and whey.
There came a big spider
And sat down beside her



and

frightened

Miss

Muffet

away.

PETER PIPER

Peter Piper picked a peck
    of pickled peppers
A peck of pickled peppers
    Peter Piper picked.

If Peter Piper picked
    a peck of pickled peppers,
Where's the peck of pickled peppers
    Peter Piper picked?

PAT-A-CAKE — PAT-A-CAKE

Pat-a-cake, pat-a-cake, baker's man!
Bake me a cake as fast as you can.
Roll it and pat it and mark it with "B"
And put it in the oven for baby and me.

Experience
Reading

FIRST WE EAT AND THEN WE READ

Experience reading is related to the growth in reading comprehension of the bilingual learner in much the same way as sunlight is related to growth in plants. Seeds placed in a dark, warm place will send up quick growing shoots, but kept from the sun they remain spindly, pale and weak. Children who learn to read words they do not understand about strange people who have even stranger experiences can develop word calling ability with relative quickness, and sometimes deceive unwary teachers with their glibness. Careful checking, however, often reveals that comprehension which gives reading its strength and power as an educative process has escaped them. In contrast, the child who is privileged to read about his own personal experiences sees words which create visual images and his reading skills are strengthened and extended by the power of comprehension through visualization.

Teaching Procedures

Any facet of the lunch program may be chosen as a subject for an experience reading chart, but successful lessons follow certain prescribed procedures. Perhaps the teacher plans to teach the children how to set a table. Due to the lack of child experience, visual aids must be employed. A picture of a simple table setting may be shown and a demonstration given by the teacher, to enable the children to see the steps which must be taken to make the setting look like the picture. After the demonstration, several in the group may be given the opportunity to demonstrate before the class.

The hot lunch is a vivid, happy experience for the child, therefore he can derive keen enjoyment from discussions and from stories centered around it. Since the words create pictures of familiar objects or actions they come to have real meaning for him.

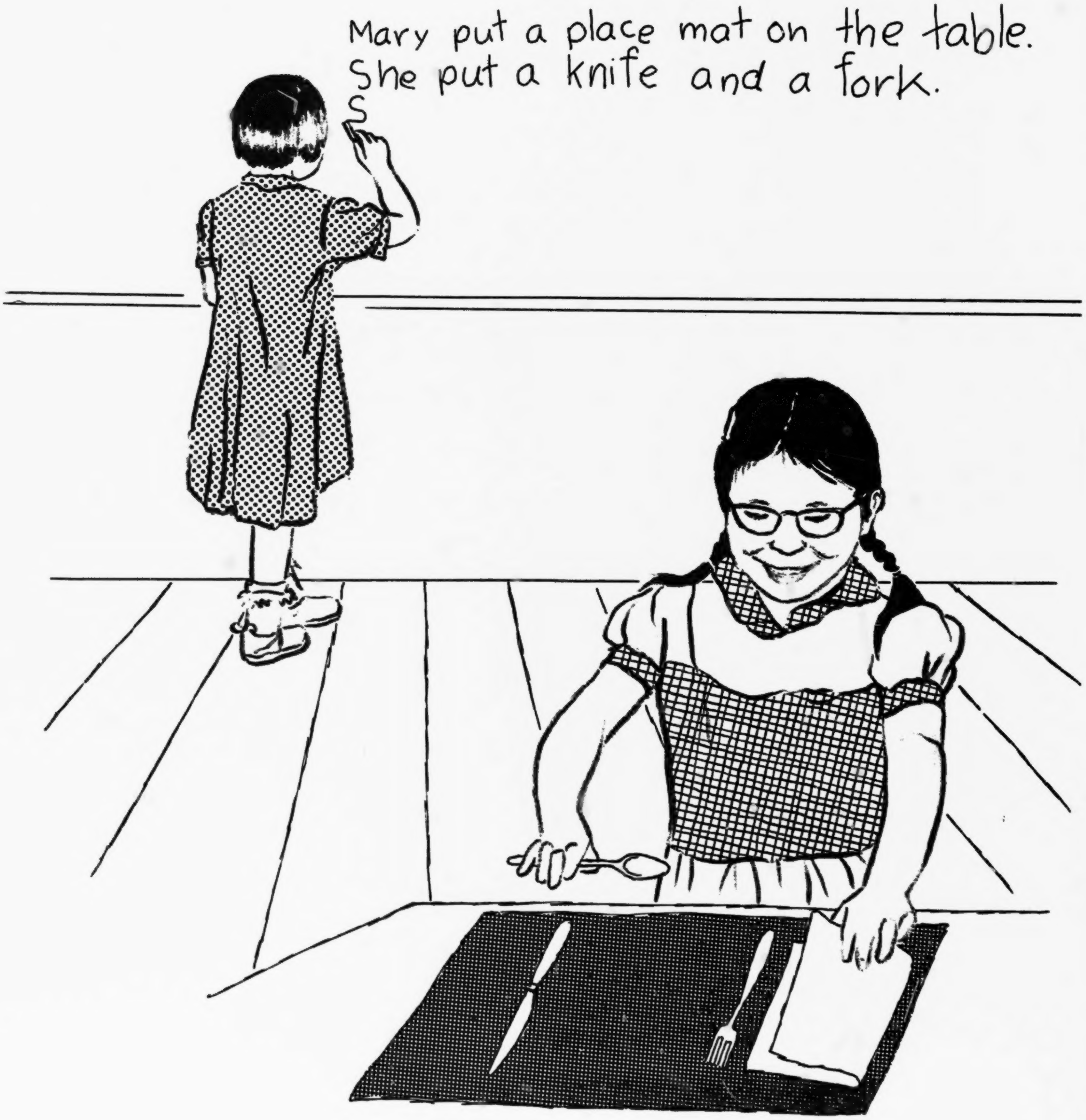
A reading lesson is then written on the board in the form of directions which the teacher draws from the children through questions such as:

> "What do we put on the table first?"
>
> "Where do we place the bowls?"

The teacher may suggest that each step be written down so the directions can be referred to at any time. As the table is set the steps are listed on the board. These are then copied on charts (one for display in the room, the other to be cut up for reconstruction of the story). The chart should contain complete sentences; be clear and concise. For example:

HOW TO SET A TABLE

Put a mat on the table.
Put a plate on the mat.
Put a knife and a spoon on the mat.
Put a fork on the mat.
Put a glass on the mat.
Put a napkin on the mat.


Mary put a place mat on the table.
She put a knife and a fork.
S

We learn to set the table.

A chart for more advanced pupils might read:

Put a plate or bowl in the center of the mat.

Put a knife and spoon to the right of the plate.

Put a glass at the tip of the knife.

Put a napkin to the left of the fork.

The how-to-do charts may be read by one child and demonstrated by another. This creates a wholesome atmosphere, one in which the child gains self-confidence.

Some experience reading stories are developed for a dual purpose — to give practice in using new words and to develop reading readiness. A preview of the day's menu could lead to the development of a reading chart about Our Lunch. Referring to the menu the teacher tells the children:

"We will have milk."

She places a picture of a glass of milk on the flannelgraph and a sentence strip beneath it. The children read the sentence. The next item on the menu is presented in the same manner. The completed story may read:

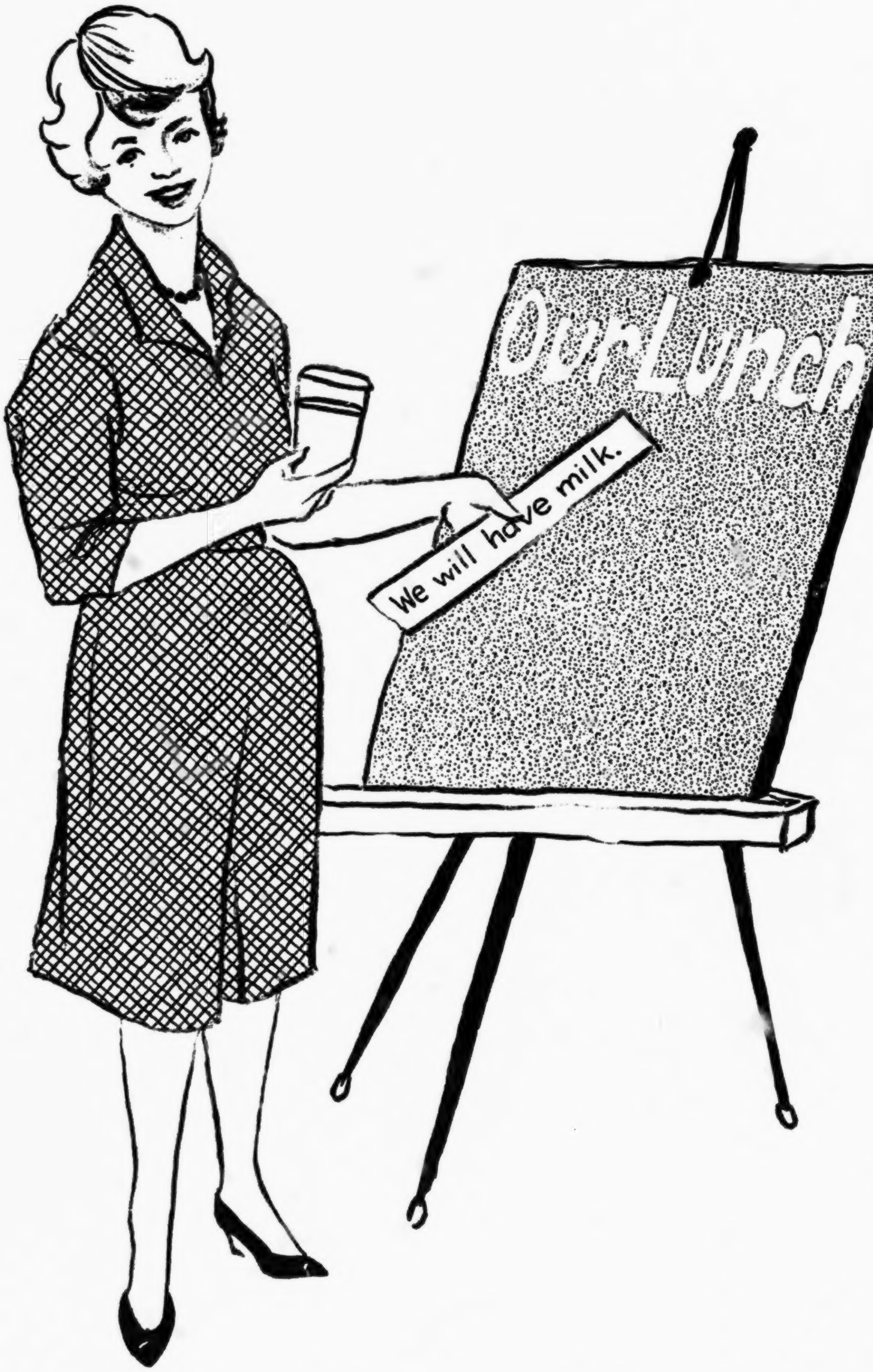
OUR LUNCH

We will have milk.

We will have meat.

We will have bread and butter.

We will have juice, too.


Our Lunch
We will have milk.

LANGUAGE DEVELOPMENT AND EXPERIENCE READING

Each child should be given a hectographed copy of each experience story. These may be taken home or placed in a booklet which is kept at school until several stories have been compiled. Many attitudes and skills are developed, and desirable habits are formed through experience stories.

Extended Use of Charts

Pupil-teacher group charts have tremendous teaching value. Once the charts are made, they can be used and referred to many times during the school year. When there are a few minutes between activities the children enjoy reading them. They may be used as a reading review.

A chart developed on table manners will provide a rich and varied experience, and help to build desirable attitudes and skills. Placed in a room where the children have access to it, they will refer to it many times on their own initiative. The following is an example of a chart which might be used as a guide by the children:

MANNERS WHILE EATING

We stand quietly in line to be served.

We sit quietly in our chairs.

We eat without playing.

We keep our voices low.

We do not talk with food in our mouths.

We ask to be excused.

We WALK out of the room.

Experience reading charts are developed **with** the children never **for** the children **by** the teacher.

Experience reading for Middle and Upper Grades

Experience reading is sometimes thought of as being strictly for primary learners, when as a matter of fact, learners at all levels benefit from reading accounts of personal experiences or experiences common to the group. At the upper grade levels, pupil developed reading materials need not be strictly experience reading in the sense that the reader's personal experience are unvaryingly related. Stories, or accounts, may be based upon subjects which are merely familiar to the writer. Authors of any age enjoy telling readers how to do things. Some subjects for "How-to-do" booklets might be:

How to Kill a Whale

How to Fish Through The Ice

***How to Cook Native Foods**

How to Find Food On The Tundra

Native Foods In Our Village

How To Serve Lunch

Records of Plans made by the class and school lunch news stories furnish interesting subject matter for pupil and teacher developed reading materials. Booklets compiled from student writings may be taken home for reading by adult members of the family. Community interest in the school program is often created through such media.

*** This could be the title of a booklet but individual assignments should be specific, e.g., How to Cook Seal Meat, How to Make Eskimo Ice Cream.**

Eating Phonetically

Young readers may begin to develop word perception powers at the experience reading level by recognizing that many words begin with the same sound. When they read,

"We ate Baked Beans today."

"We ate Bread and Butter, too."

they see and hear "b" as the initial sound in four different words. Later they will realize this same sound may be found WITHIN words, e.g., cabbage and garbage. All in good time, the consonant blend, "bl" in table, vegetable and blessing, will become a helpful friend.

A few activities and games which will lend interest and enjoyment to the reading program are suggested. The creative teacher will develop many more.

Activities

A TREASURE HUNT. Children hunt through old magazines for pictures of foods with names beginning with the same sound, e.g., carrots, candy, cabbage, corn.

CAN YOU GUESS? While children are waiting to be served they may play a guessing game. The leader says:

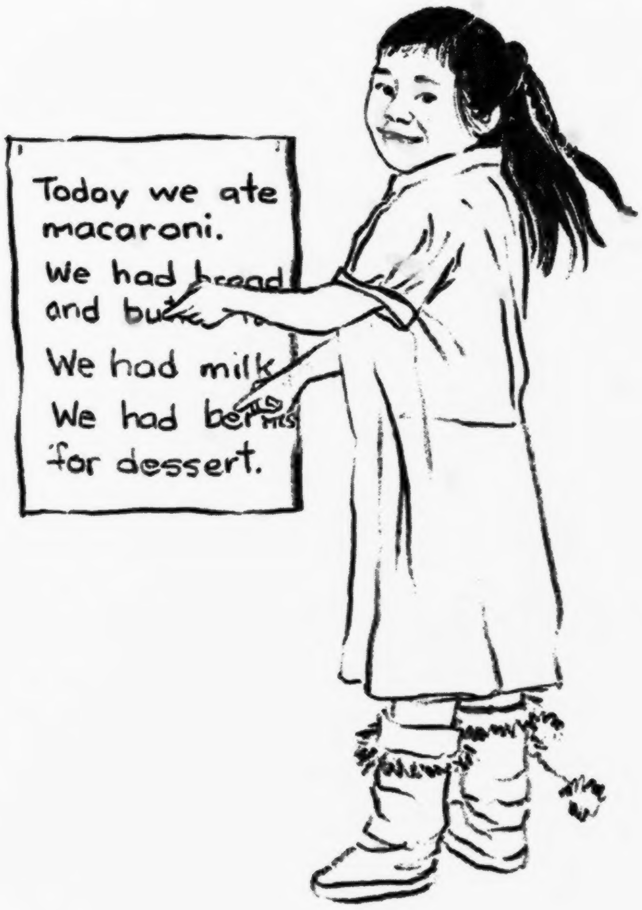
"I am thinking of a food the name of which begins with "b".

He writes the letter on the chalkboard as he sounds it. The child who guesses the correct food is the next leader.

HOW MANY CAN YOU FIND? The leader may say,

"John find all the food names on our story charts that begins with "c".

If John fails to find them all, or if he picks out words which are not food names, another child is chosen to hunt. The one who makes no errors is the next leader.


Today we ate
macaroni.
We had bread
and bu
We had milk.
We had berries
for dessert.

Penmanship and Spelling

PENMANSHIP

As the spelling vocabulary is learned, the finer points of penmanship may be practiced, with emphasis on particular needs, e.g., apples, pineapples, peaches, prunes all contain the letter "p" which extends below the line. The words, bread, butter, biscuits all have the letter "b" above the line. The words meat, eat, bean, tea, have small letters of the same height, **e a m n** .

SPELLING

The vocabulary of the lunch program is quite extensive and could furnish the learner many meaningful words for an illustrated School Lunch Dictionary. During the year, many of these words may be used in written work, such as, stories, letters, short papers on subjects relating to food, grocery orders, etc. As the need arises the learner should master the spelling of new words.

Social Development

MINDING OUR MANNERS

Developing social learnings among the Native Eskimo and Indian children is a unique experience for most new teachers going into remote villages for the first time. Heretofore, they have been accustomed to teaching children acquainted, to at least a slight degree, with the complexities of social amenities as they know them. Some time passes before the realization dawns that children from a different culture with extremely limited experiences require detailed instructions, and an opportunity to practice, in all areas of social living.

Social development must be stressed so that the child may acquire self-confidence and have a feeling of security in the complicated process of becoming acculturated.

Developing Responsibility

Developing responsibility and working together are closely related to social development. The children learn responsibility by actual participation in the serving of the school lunch. Helpers might be appointed for various jobs.

A chart or charts similar to the ones presented here can be a helpful reminder as well as a good experience reading device.

OUR HELPERS

Mabel will get the place mats.
John will get the silver.
Mary will get the napkins.
Tommy will get the bowls.

or

Mary and Tom will set the table.
Henry will pour the milk.
Sally will pass the bread.
Dick and Sam will clean the tables.
Harry will sweep the floor.

The children often vie for these jobs. It gives them a "good" feeling to help and to experience responsibility for job performance. At the same time they are developing self-confidence, learning to work with others, thereby overcoming some of the innate shyness characteristic of children who are constantly meeting new experiences.

Social Goals

Pupils and teacher might discuss and record social goals which they expect to achieve through participation in the lunch program. Most of the goals will be practiced daily; a few on special days. The following activities may be employed to teach many worthwhile goals.

A. HOW TO SET A TABLE (See Part 1, p. 121.)

If tray service is used ordinarily, a conventional place setting may be reserved for special occasions. Children having birthdays might be honored with the table setting pictured on page 13.

For learning through fun, the following rhyme borrowed from FOOD TOPICS, Gallup Area Office, could be used:

> **"Mabel, Mabel, set the table.**
> **Quick and slick as you are able;**
> **Glassware sparkling, dishes bright,**
> **Forks to the left and spoons to the right.**

B. PERSONAL PREPARATION FOR LUNCH

1. **Comb hair** (long hair, if properly braided at home should not require combing).
2. **Put fresh Kleenex in pocket.**
3. **Wash hands.**

Though various methods of washing the children's hands are available to the teacher, the Bethel Committee, in the interest of efficiency and economy of water, especially recommends the sugested handwashing procedure on page 170.

Assistants in the hand washing routine might be boys and girls who have displayed an unusual capability scholastically during the past week, or children who need language practice; or they may be pupils who need to feel they can contribute, or need to feel they belong.

It should be noted that as many as 100 children may wash their hands within a ten minute period, with a minimum expenditure of water. Smaller groups of children will require proportionately less time and water.

a. EQUIPMENT*

Two large pitchers or coffee pots, or bucket and dippers for pouring water.

Container of liquid soap-sprinkler top bottle or large oil can.

Liquid soap.

Two or more buckets or small tubs for waste water placed high enough to prevent water from splattering.

Paper towels are preferred. If cloth towels are used, they should be individually assigned and identified by name or number.

Small groups of children proceed to the washing area and take turns in an orderly way in washing their hands. As each child passes the table, one pupil-assistant pours an equivalent of a large tablespoon of soap solution on his hands. The child rubs his hands together briskly, and the next assistant pours a portion of warm rinse water from a small cup or similar container. Under the child's hands is the empty basin into which the rinse water falls.

The last step involves a third assistant who hands the child a paper towel. After the child dries his hands, he may dispose of the paper towel in a convenient can, or box, placed nearby for this purpose.

The child then passes with his group to the serving area or returns to his desk to be served.

Formula for making liquid soap

One medium sized cake of good soap chipped and dissolved in two cups of hot water. When soap is dissolved, six cups of warm water should be added and vigorously stirred.

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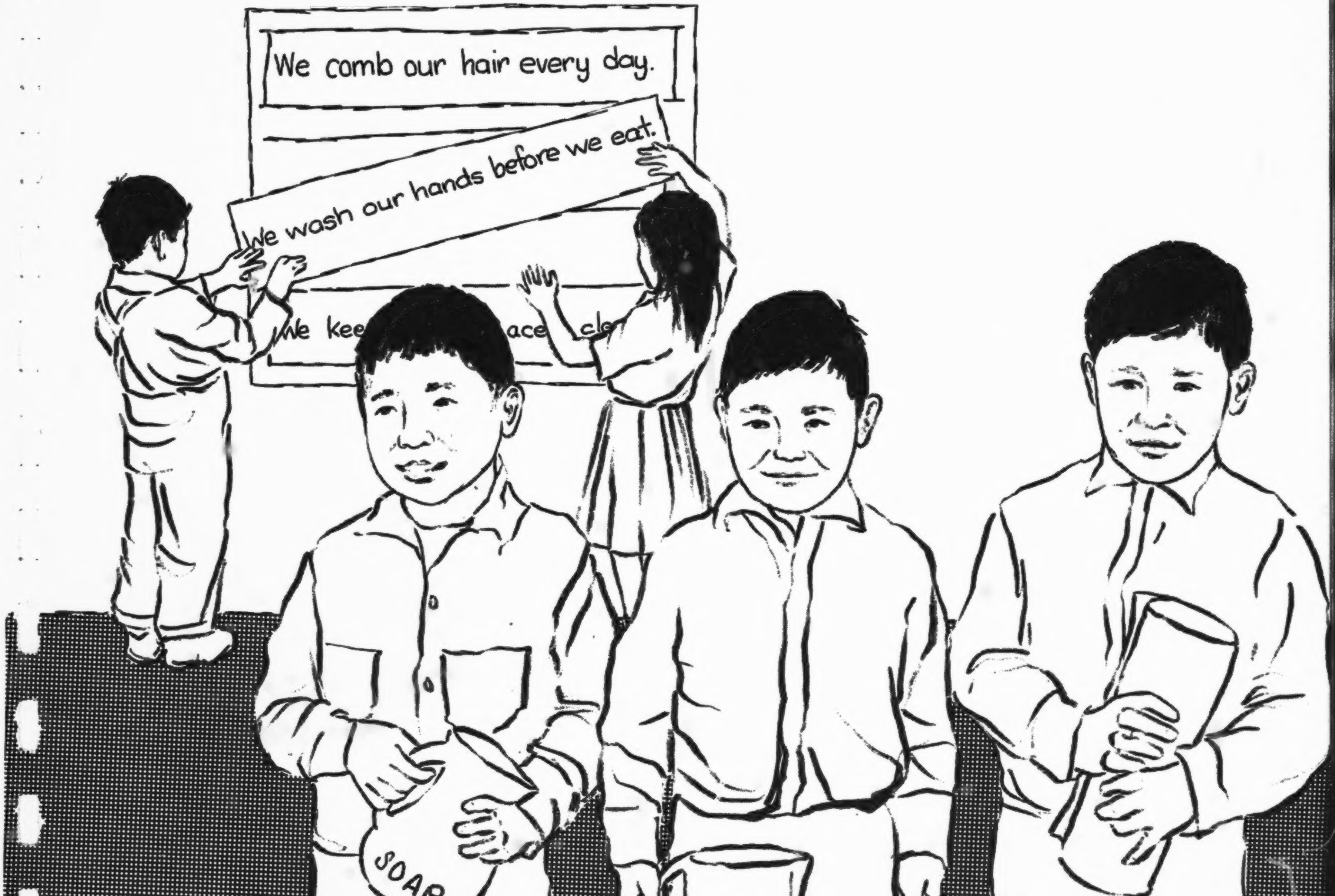
* Friedman—SANITARIANS HANDBOOK, 1957

We learn to practice good grooming.


We comb our hair every day.
We wash our hands before we eat.
We kee ace cle
SOAP
WATER

Language Correlations

Important though cleanliness be, it should not steal the show during hand washing routine. Every pupil should be required to "wash his hands in English." He may say:

"May I have some water, please?"

"May I have a towel, please?"

"Thank you."

When these phrases have been mastered he may learn to say:

"I will wash my hands."

"Mary is pouring soap on my hands."

"Jane is pouring water."

"Henry is giving me a towel."

The helpers should be required to verbalize their duties in like manner, speaking as the actions are carried out, e.g.:

"I am pouring soap on John's hands."

Good Table Manners

Wait until all have been served and the blessing has been asked before unfolding the napkin.

Sit comfortably, but straight and quietly, at the table.

Do not put elbows on the table.

Take small bites.

Chew with lips closed.

Use the napkin.

Use Kleenex when needed, turning head away from the table.

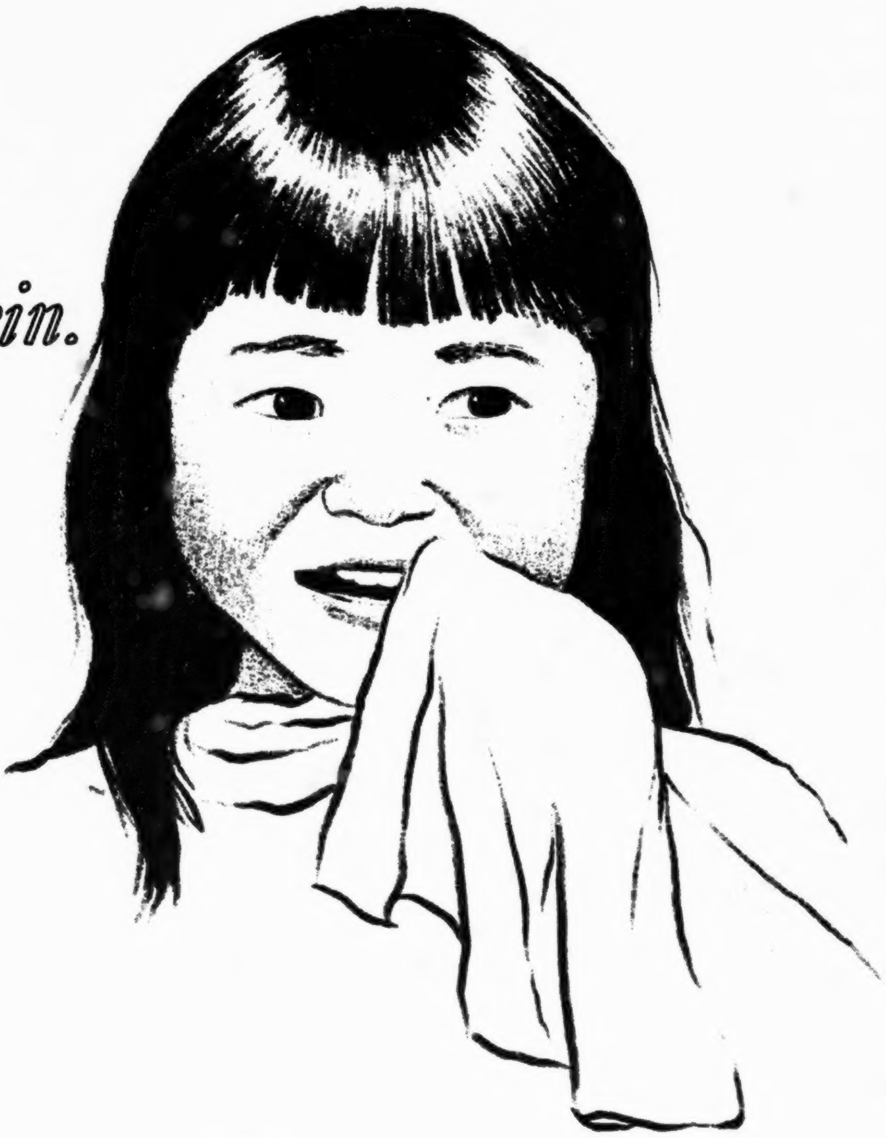
Place silverware which has been used on the plate, not on the table.

Avoid spilling food.

Say, "Excuse me, please," if leaving the table before others finish eating.

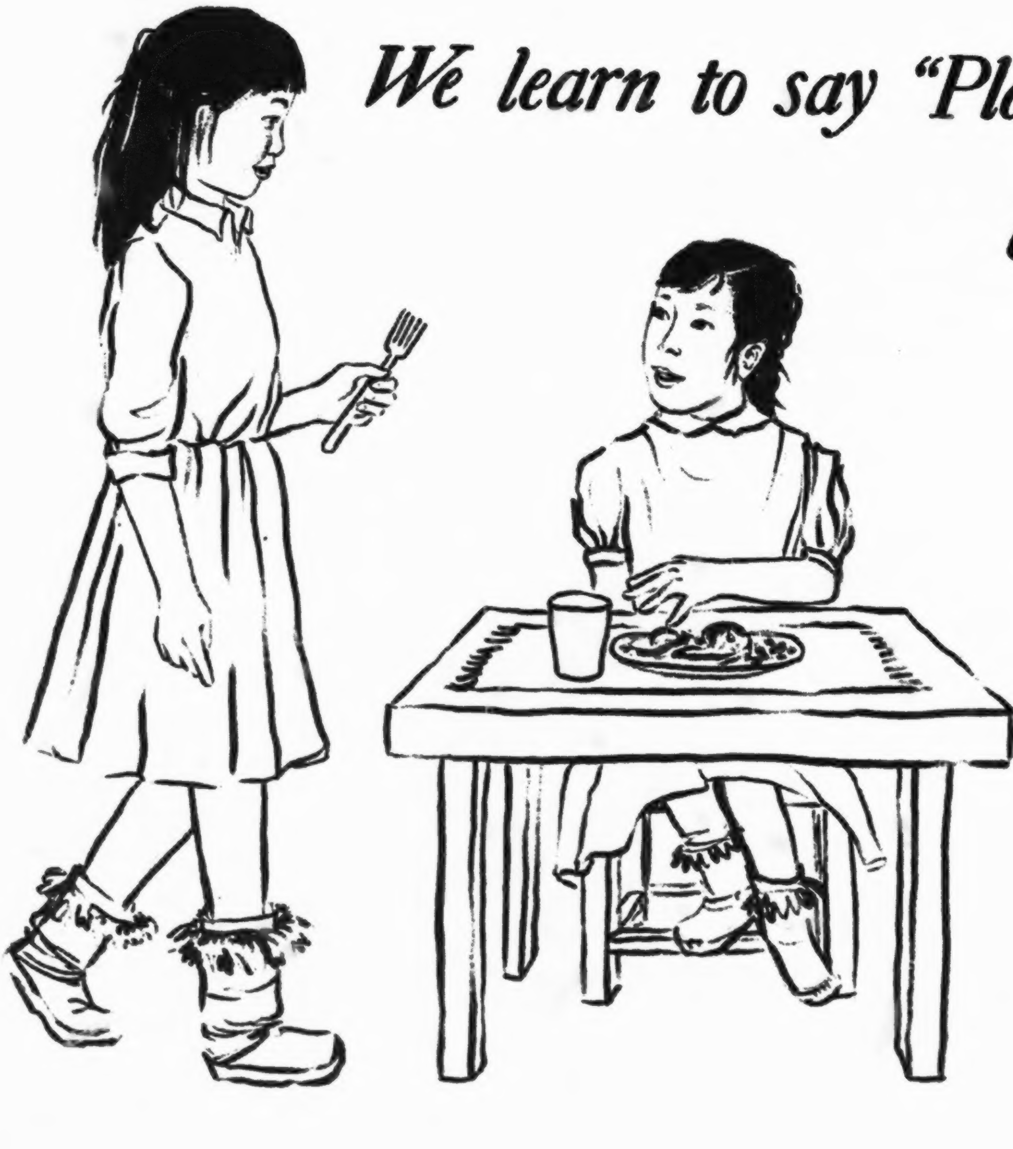
Place napkin loosely on table before leaving.

We learn to use our napkin.



We learn to say "Please"

and "Thank you".



Graces

Children may say a simple grace in unison or take turns individually. Some graces may be sung.

God is great and God is good,
And we thank Him for our food;
By his hand we must be fed,
Give us, Lord, our daily bread. Amen

Bless, oh Lord, this food
for our use,
And our lives to Thy service. Amen

Be present at our table, Lord,
Be here and everywhere adored,
These morsels bless, and grant that we
May feast in Paradise with Thee. Amen

For sun and moon and stars,
For wind and rain;
For sea and hills and tundra green,
For beasts and birds,
For home and food and friends
We thank Thee, Lord. Amen

Thank you for the food we eat

Thank you for the world so sweet

Thank you for the birds that sing

Thank you, God, for everything.

Amen.

An Hour to Remember

Lunch time should be a happy time. It may also be an instructive time, in a pleasantly relaxed fashion. Some enjoyable activities which may be carried on during the lunch hour without fear of unpsetting the processes of digestion might well be:

1. STORY TELLING

a. By community leaders — (A prior understanding should be established concerning the time at the disposal of the story teller otherwise the story may be too lengthy). Eskimo and Indian peoples traditionally give moral guidance through story telling. By inviting local leaders to participate in the school program, the teacher shows respect for the Native culture. This in turn will do much to develop sorely needed self-esteem in the students.

b. By the teacher — a poem, another chapter in a favorite book, or a short story may be read by the teacher.

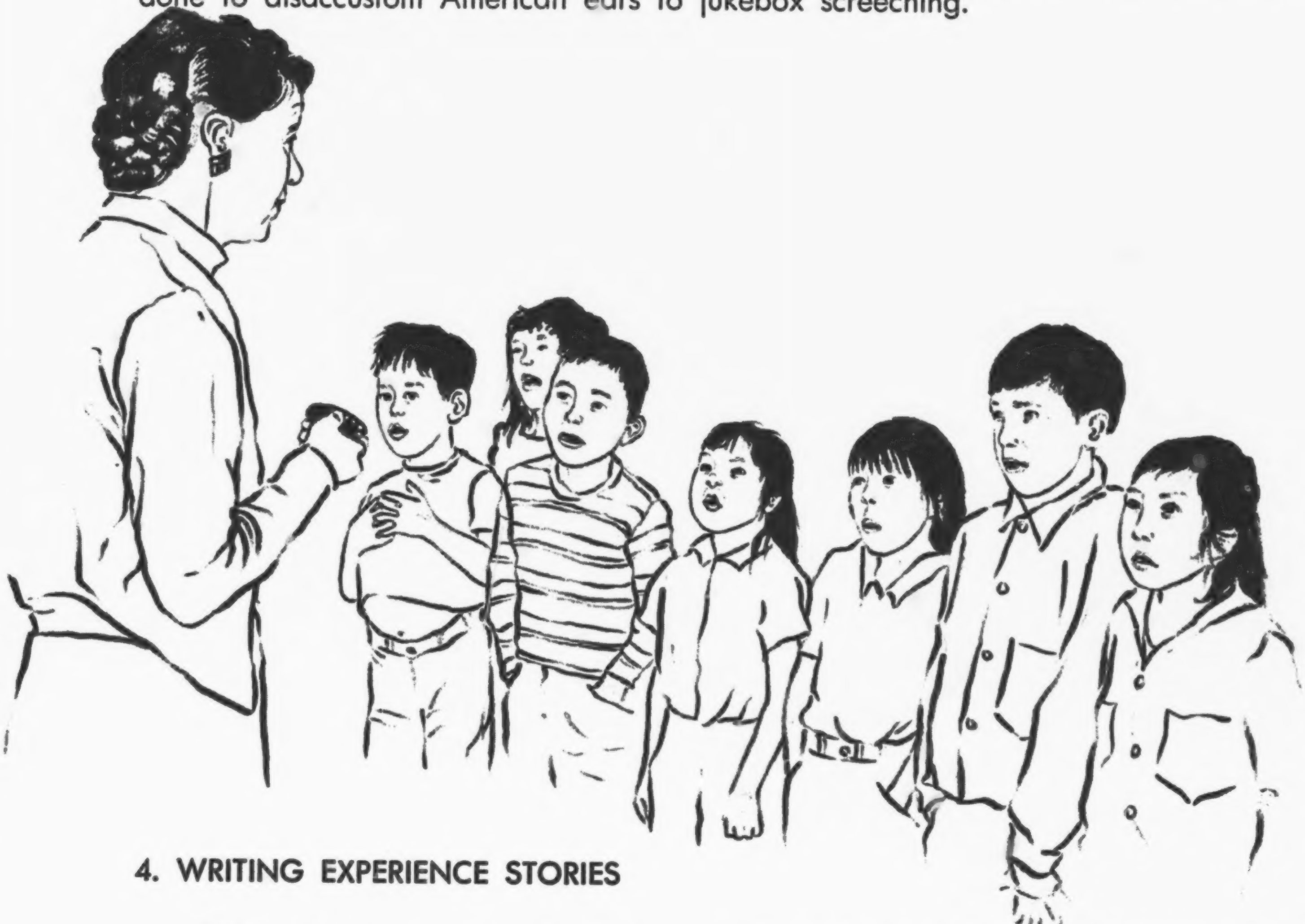
2. RADIO PROGRAMS

Programs should be selected for their educational values. Schools so fotrunate as to be able to receive newscasts, should take advantage of the opportunity to listen, analyze and periodically rewrite the items of interest and significance.

VILLAGE LEADERS GIVE GUIDANCE

3. MUSIC

Selected phonograph recordings may be played either for serious listening or as background music. The loud, blaring variety should be outlawed. Too little is being done to disaccustom American ears to jukebox screeching.



4. WRITING EXPERIENCE STORIES

This is the time to develop understanding and use of the present tense of verbs. Stories may be developed by the group and written on the chalkboard:

We are eating lunch.

We are eating macaroni and cheese.

We are drinking milk.

5. CULMINATING ACTIVITIES DEVELOPED IN STUDY UNITS RELATED TO SPECIAL DAYS COULD BE CARRIED OUT IMMEDIATELY AFTER THE EATING PERIOD.

6. QUIET CONVERSATION AT EACH TABLE.

Social Studies

THE HANDS THAT FEED US –

A Social Studies Unit For Middle and Upper Grades

A. Objectives:

1. To develop pupil knowledge of the many sources from which Alaskans receive basic food supplies.

2. To develop pupil knowledge and appreciation of the influence of climate and transportation on production and consumption of food.

B. Food Sources:

1. UNITED STATES (South 48 states)

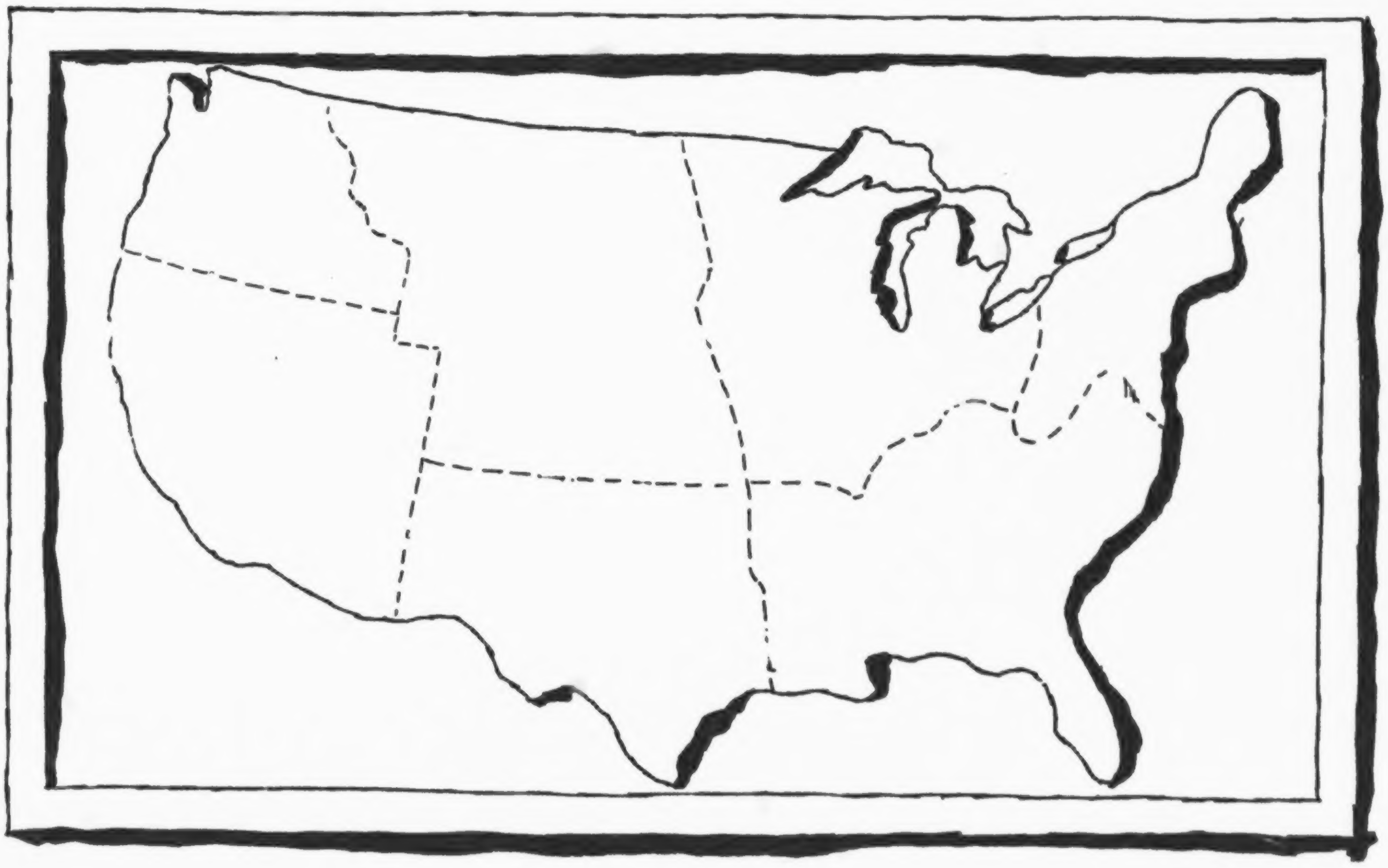
a. Products

(1) fruit
(2) vegetables
(3) grains — flour, cornmeal, cereals, etc.
(4) dairy products
(5) meat, fish

b. Activities

(1) Draw a map, similar to one shown on page 182 using symbols, pictures, or actual products to show sources of foods. This map may be made in sections which can be put together to form one large map. Sections may be done by individuals or groups.

MAP OF THE UNITED STATES



Grain regions: ////
Fruit: — — — —
Fish: oooo
Beet sugar: xxxx
Cotton: &&&&

Meat: ((((
Rice: cccc
Salt: !!!!
Potatoes: tttt
Vegetables: ****

Color may be used to illustrate the area.

This work can be integrated through all the grades, with correspondingly more difficult and more detailed work for each group; starting with the pictures of familiar food to develop an oral vocabulary and progressing to a reading vocabulary through seeing the names in written form.

Note: The tri-purpose projector could be used to advantage in projecting this map and those on the following pages.

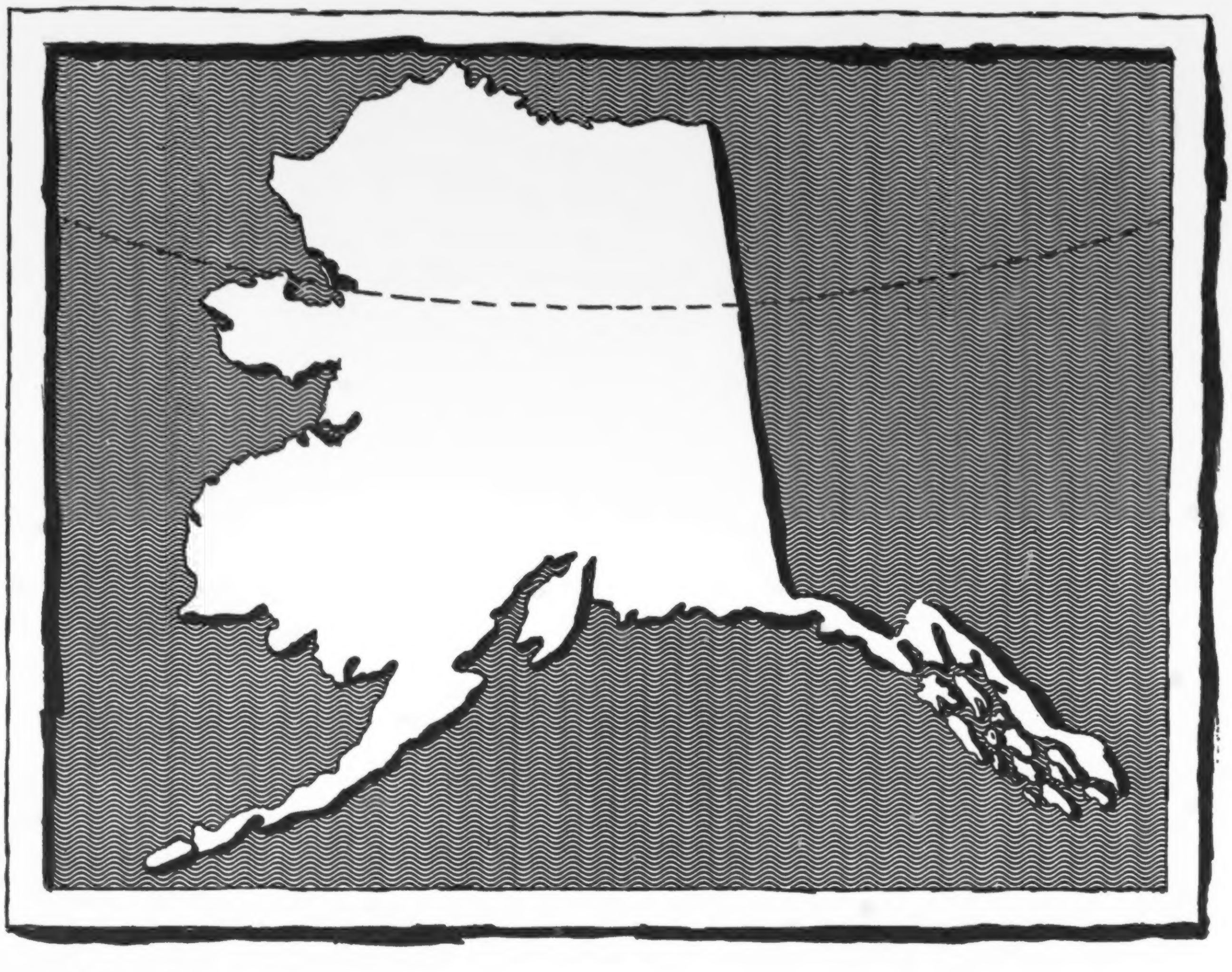
2. ALASKA

a. Products

(1) berries	(4) meat-poultry, beef and game
(2) greens	(5) vegetables
(3) fish	(6) dairy products

b. Activity

(1) An outline map — same procedure as used in developing map of the 48 southern states.



c. Concepts:

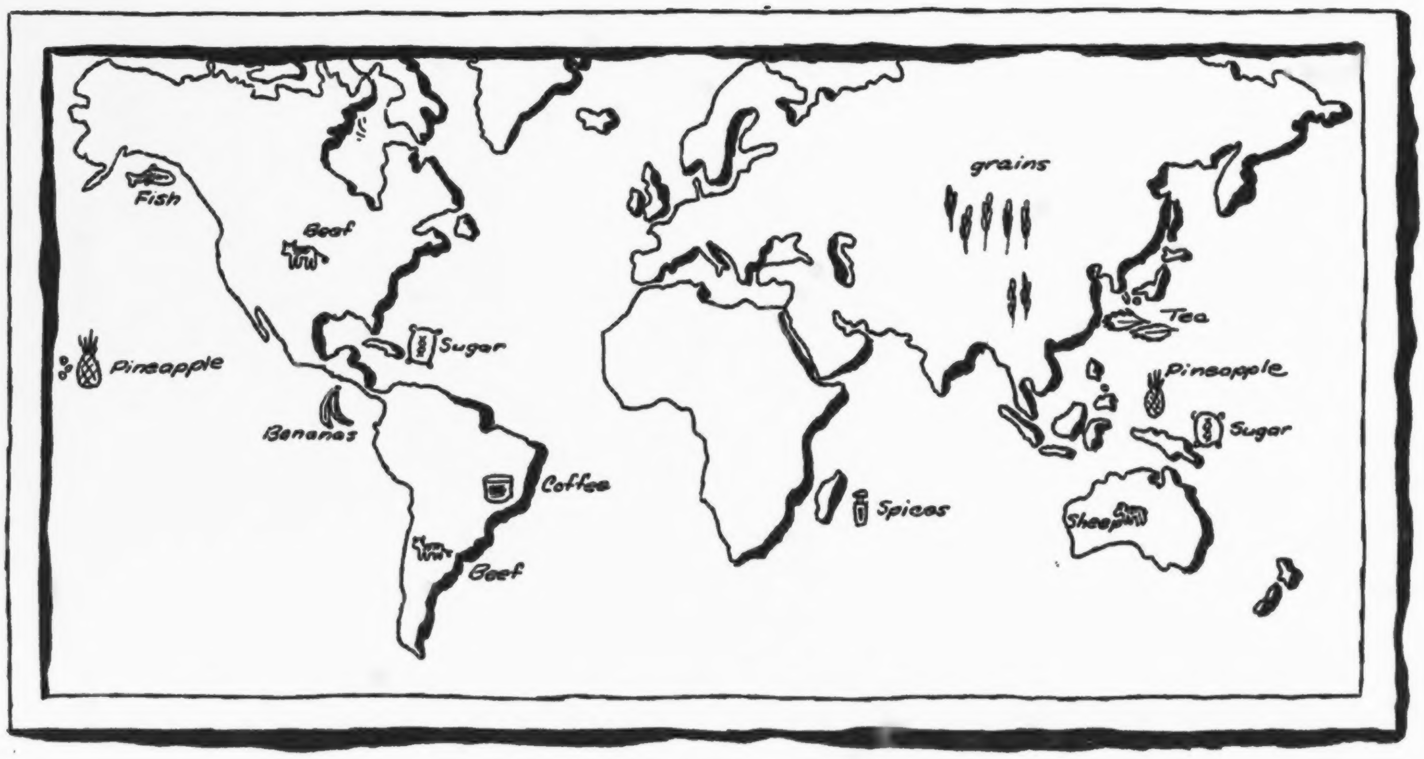
(1) The relationship between the geographic location of Alaska and food production.

(2) The importance of canneries — land and floating, to the economy.

(3) The importance of game — hence of conservation, to the economy.

(4) The increasing importance of dairying and gardening. (The role 4H Clubs are playing in this).

WORLD MAP


Fish
Beef
grains
Sugar
Tea
Pineapple
Pineapple
Bananas
Sugar
Coffee
Spices
Sheep
Beef

3. FOREIGN

a. Products

(1) Meat from Argentina

(2) Sheep from Australia

(3) Coffee from Brazil

(4) Sugar from the Indies and the Phillipines; Cuba and the political involvements.

(5) Fish from Norway.

b. Activities

(1) Draw world map — may use pictures of products bordering the map with streamer ribbons indicating regions where products are produced. Series of colored thumb tacks or stars may also be used.

C. Factors Which Influence Food Production and Consumption:

1. CLIMATE — a controlling factor in food production the world over.

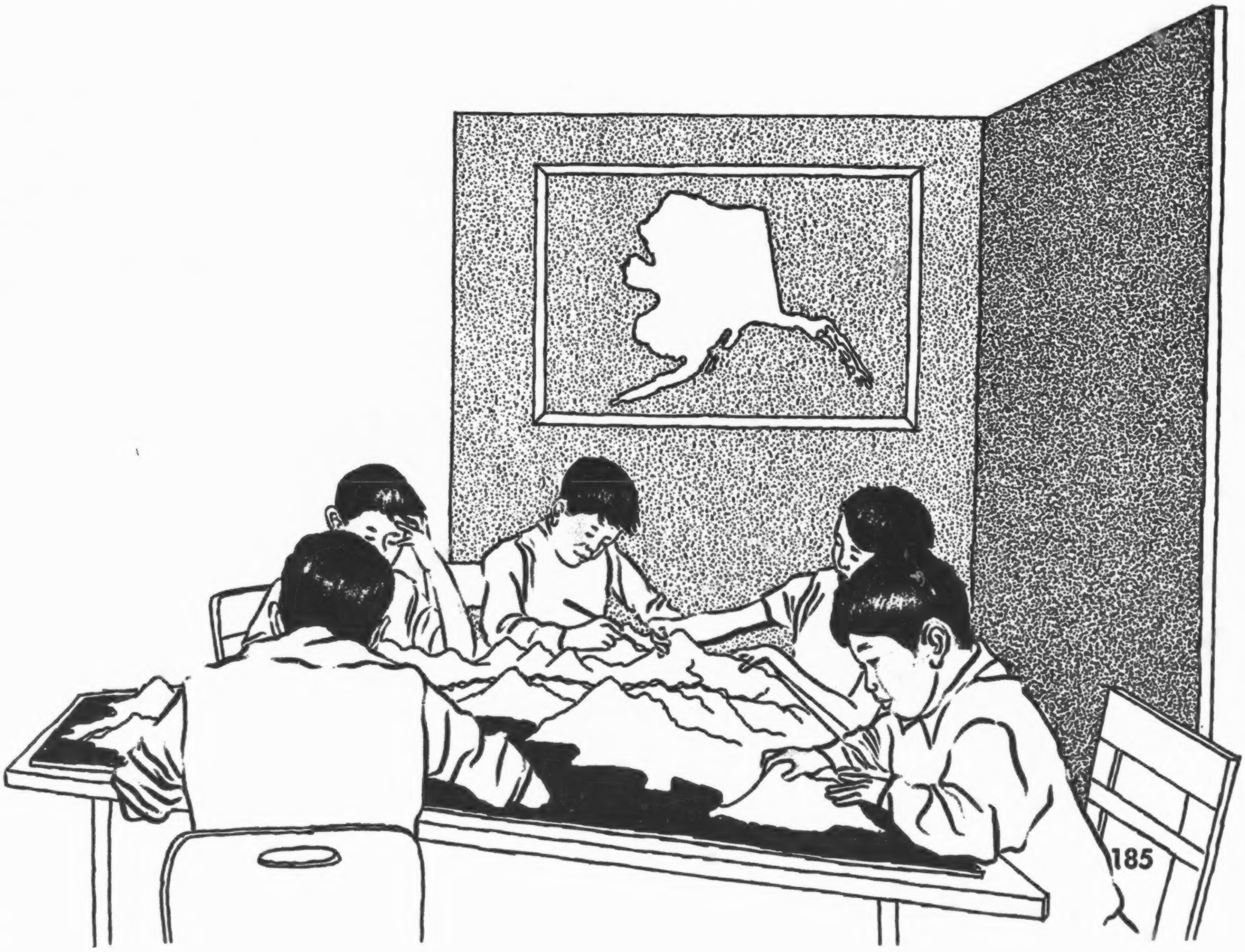
a. Activity. A physical map of salt paste showing oceans, large bodies of water, large land masses, mountains, frozen wastes and deserts.

(Recipe: Salt paste is made from mixing one part flour to three parts table salt with enough water to mix to dough consistency. Dry overnight and color with water colors).

b. Concepts

(1) The relationship of mountain ranges, prevailing wind and rainfall to climate.

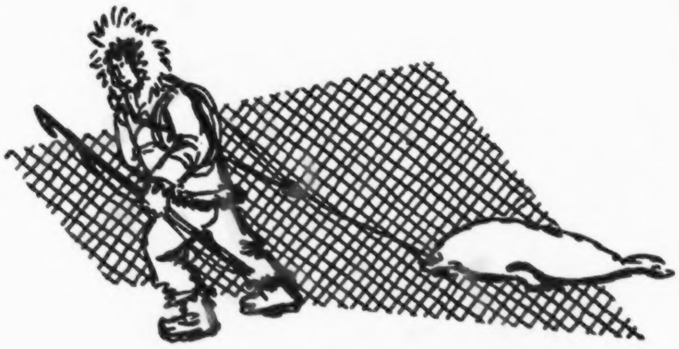
(2) The relationship of climate to growing seasons (Use a spray and electric fan to show the effect of wind and rain).



2. TRANSPORTATION

a. People must have food in order to live. People must either live where food is available or food must be transported to them.

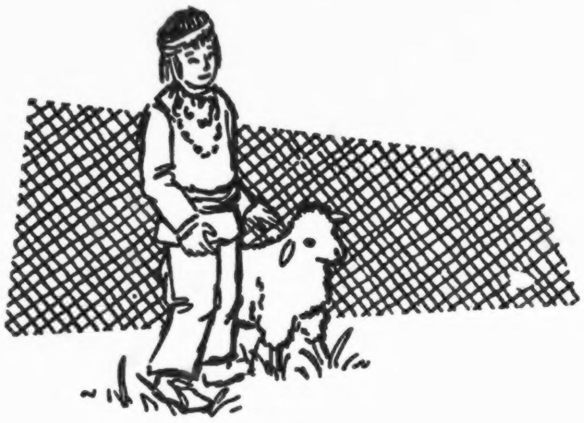
(1) ALASKAN NATIVES



(a) Indian, Eskimo — Coastal region; live only where seal, fish, whale, sea birds or walrus are available.

(b) Indian, Eskimo — Inland; live only where caribou, fish, birds, or small game are available. Often have to move to keep up with food supply.

(2) AMERICAN INDIANS



(a) Navajo — Southwest; live in widely scattered desert areas, have to seek grass for sheep.

(b) Pueblo — Southwest; live in permanent villages, cultivate crops of corn, beans and squash.

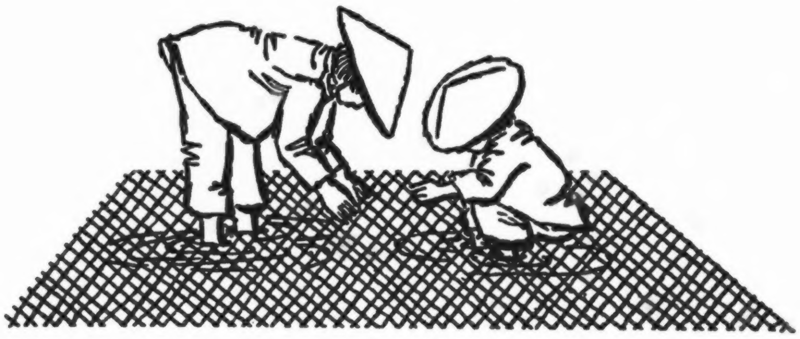
(c) Sioux and others — Plains; hunted buffalo, lived a nomadic life.

(d) Iroquois and others — Eastern; lived in settled communities, farmed but also hunted.

(3) ARABS — BEDOUIN; live in the desert. Move from one oasis to another; subsist on date palms and animals products.

b. When large numbers of people are concentrated in a relatively small area, hunting or fishing can no longer supply food enough for all. At such times, either some people must move to places which have enough fish or game to support them, or the people starve until the number left is small enough to exist upon the available food supply.

(1) Chinese — dependent upon rice crop.



(2) Indians (India) — dependent upon grain and rice crop.

c. Countries have had, and still have, famines because of lack of food in some areas and lack of transportation to take food from where large amounts were raised to areas where it was needed.

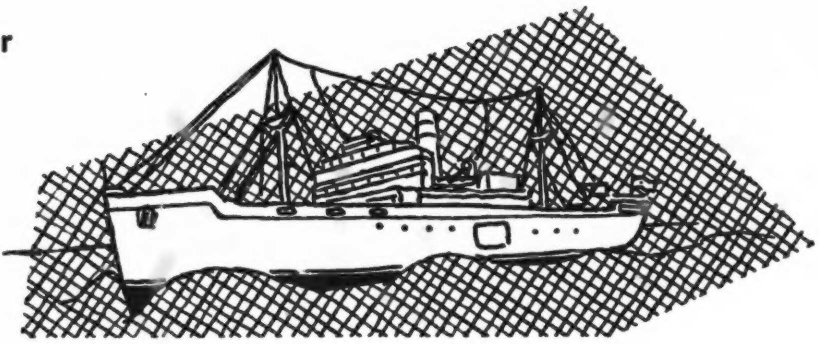
d. All large concentrations of people must have a source of food from outside the limits of the city, village, etc.

e. Food must be transported to the people because it is easier to transport food than people. If people were transported to food, food producing areas soon would be ruined; more problems of shelter and sanitation would be created.

f. All large cities or large concentrations of people have access to food producing areas. To close the gap between food producing areas and concentrations of people, the food must be transported from where it is produced to where it is consumed.

3. MODES OF TRANSPORTATION

a. Water



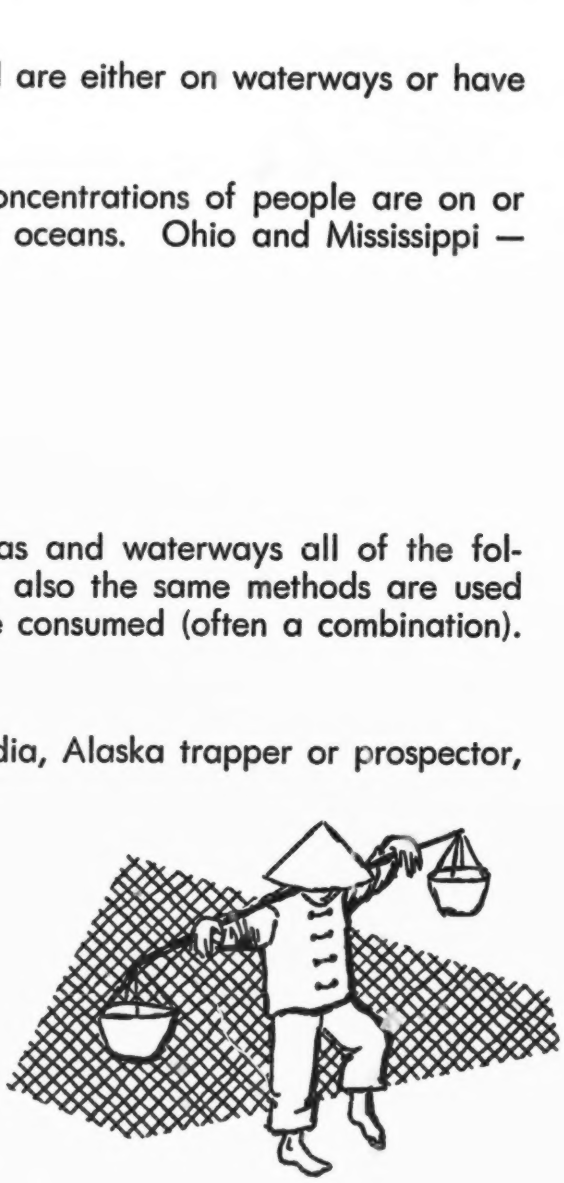
All the large food producing areas in the world are either on waterways or have access to them.

This correlates with the fact that all cities or concentrations of people are on or near waterways. Alaska — all villages on rivers or oceans. Ohio and Mississippi — flat boats of pioneer days.

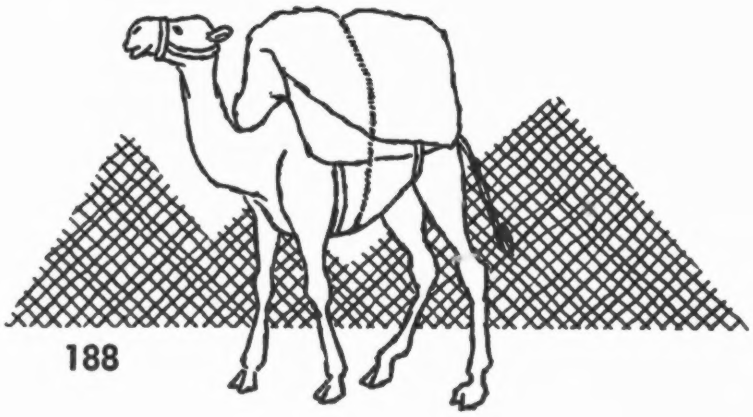
b. Overland

To close the gap between food producing areas and waterways all of the following methods have been and are still being used, also the same methods are used to transport food from waterways to where it will be consumed (often a combination).

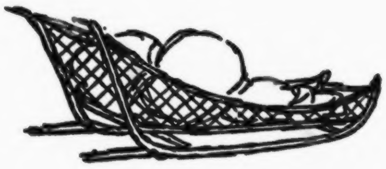
(1) BACK PACK OR HAND CARRY — China, India, Alaska trapper or prospector, from market or village to home.



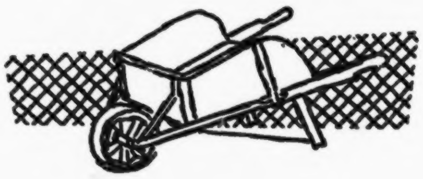
(2) ANIMAL PACK — dogs, camels, horses.



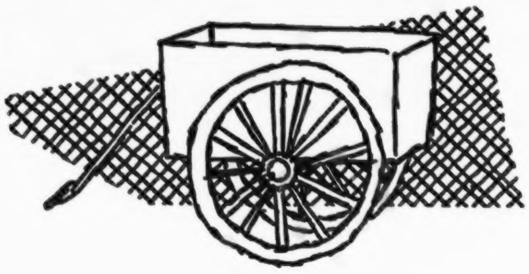
(3) SLED — whale or seal from beach to village; cat train, (Large sleds used to haul supplies, pulled by tractors).



(4) SINGLE-WHEEL VEHICLES — used in China, on farms, and nearly all villages in Alaska have at least one wheelbarrow.

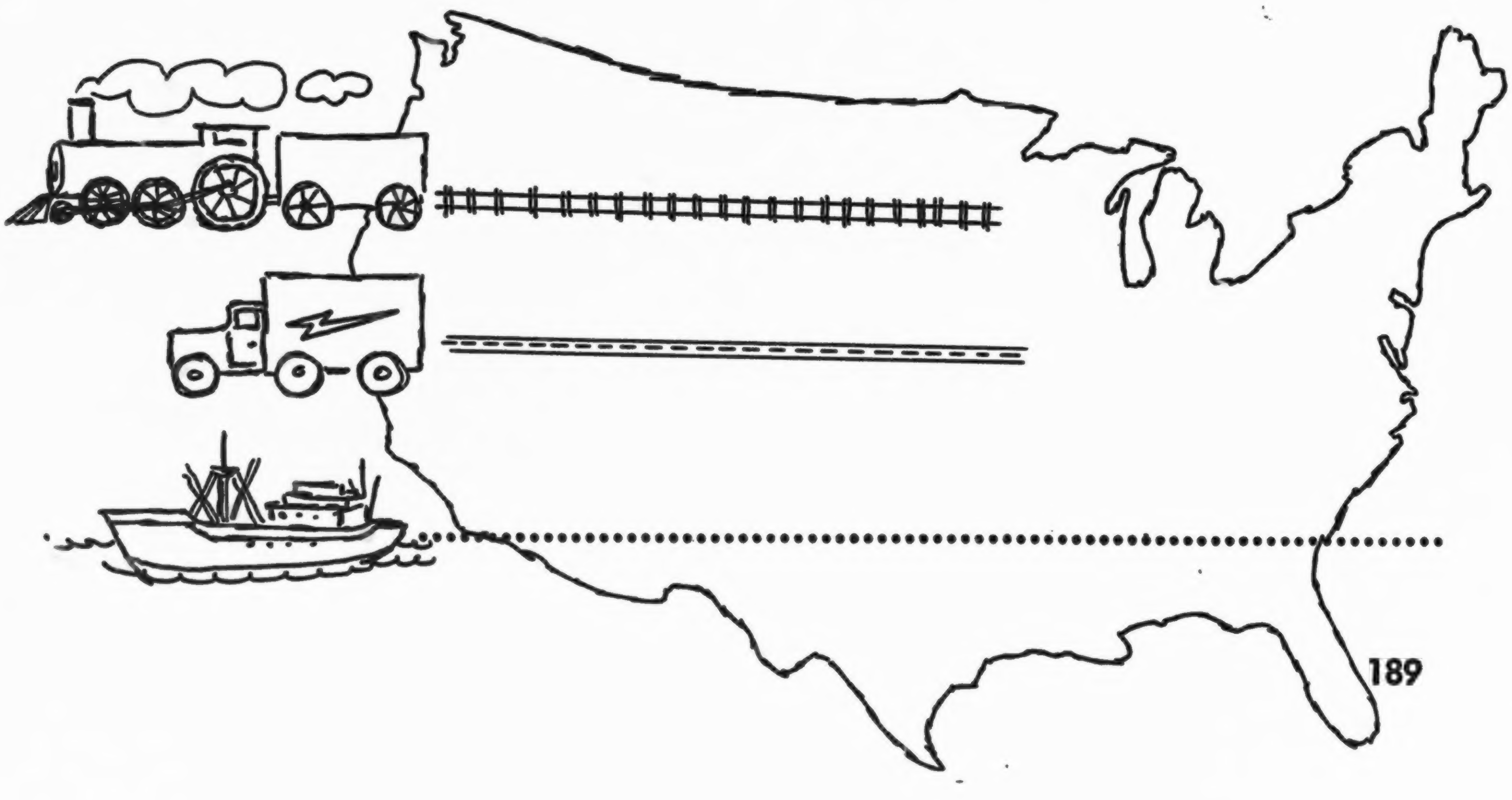


(5) TWO-WHEEL VEHICLES — (cart or trailer. Used on farms, in many foreign countries. Used with dogs in summertime.)

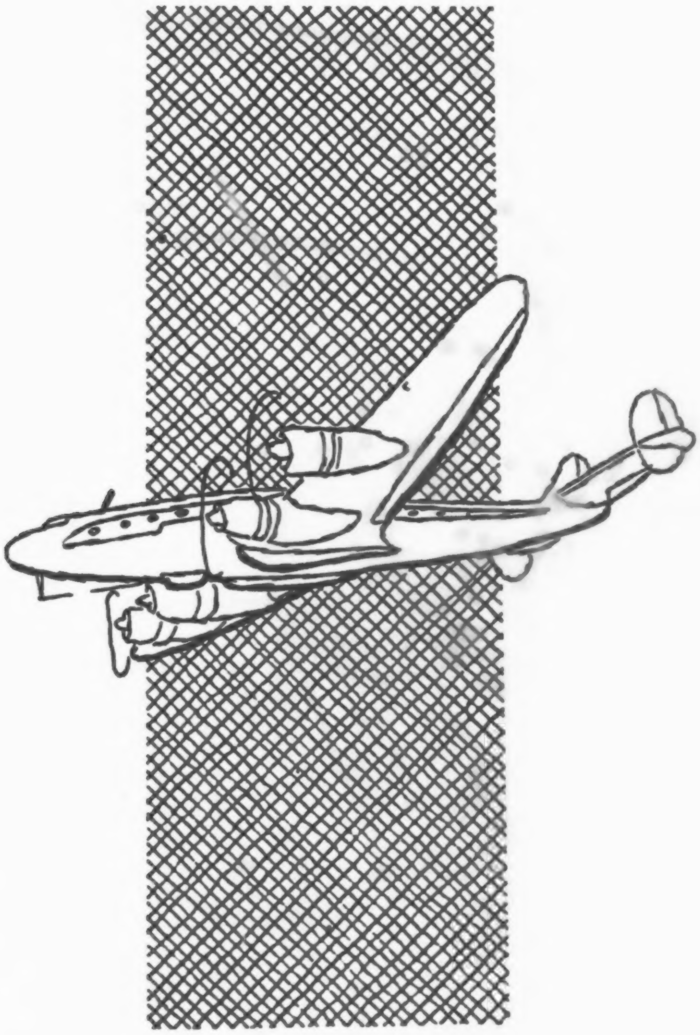


(6) FOUR-WHEEL VEHICLES — (wagons, cars, trucks, trains). Trucks and trains are most important because they can carry the greater loads, more cheaply, and faster. (Example: Fairbanks is now supplied by train and truck, but was once supplied by river steamer).

Show by maps that trains, trucks, and boats transport food from producing areas to people.



c. Air



Airplanes are used to carry food usually under certain conditions.

(1) FOODS THAT ARE PERISHABLE

eggs	some vegetables
fruits	food of high value

Perishable foods need speedy delivery if delivered in the natural state, (not frozen or canned).

(2) PLANES ARE USED TO CARRY FOOD WHERE OTHER MEANS ARE NOT AVAILABLE:

Dropping food to flooded villages during break-up floods, etc.

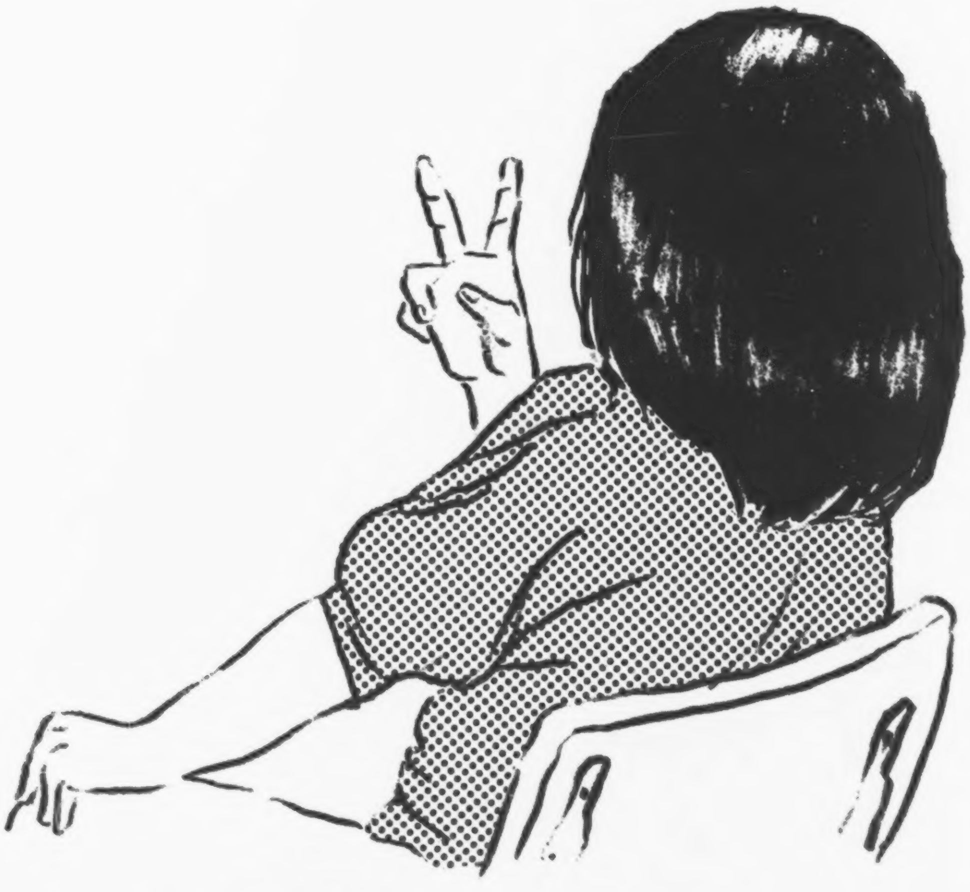
Expeditions: Arctic, Antarctic, etc.

Isolated mines: trappers, oil test crews.

When other means of transportation are closed during the winter. (Example: Alaska during freeze-up where people are dependent on water transportation.)

(3) PLANES ARE USED TO CARRY FOOD ANY TIME A PROFIT CAN BE MADE BY DOING SO.

The Mathematics of Eating



MORE OR LESS

Much has been written about the non-reader. His plight has aroused sympathy in many languages. The analysis of his difficulties, if piled volume upon volume would excite envy in a skyscraper. Too often, the analysts agree that reading difficulties can be blamed upon inept teaching.

In contrast, the poor number dullard has received little encouragement to lay his low achievement rating at the door of his teachers. The first wiseacre who learned to count without benefit of stones or sheep, seems to have been able to establish the belief that a few people are born with number sense but many are not, and no amount of instruction can change the decree of nature. Accordingly, textbooks and methods of instruction have been developed in conformity with this conviction, and for generations the belief has persisted that mathematicians are born, not made. As a result, it is now accepted in some quarters that at a designated level in the school program, the high level computers are relentlessly separated from the finger counting peons.

Action, wise or unwise, brings about reaction. In this case it seems to be resulting in an uprising of the number dullards dedicated to the cause of humbling the proud science of computing by providing that many can achieve number competence through proper instruction. The anarchists have started the revolution by flooding the schools with arithmetic textbooks filled with visual aids and suggestions for relating teaching to life experiences.

This theory that arithmetical understandings can be developed through **seeing** and **doing** leads directly to the school lunch program. A quick survey of the correlative possibilities and it is immediately apparent that if the mathematics of eating are brought into the classroom, students may figuratively munch their way to number competency.

Consider the student whose knowledge of units of measure has been confined to such familiar comparisons as:

"The size of a gull's egg."
"A seal poke full."
"As big as a whale."
"This many fingers."

Only through actual experience can he gain an understanding of the weights and measures he will have to deal with in the more sophisticated system in general use. A visit to the food storeroom will enable him to **see** gallons and pounds. Through helping to weigh and measure food for the daily lunch he will learn how many cups of milk he can get from a gallon container and how many loaves of bread from a ten pound sack of flour.

Practical problems relating to producing, purchasing, preparing, and consuming food — food which the learner personally consumes, will enable him to master more arithmetical concepts in one year than he could master in eight from textbooks alone. There is an abundance of arithmetical learning for all levels in the lunch program.

Sample Activities for Primary Grades

1. DAILY COUNTING OF:

Children participating in the lunch program
Silver
Dishes
Napkins

2. PLAY RESTAURANTS:

On occasion, selected groups of children may "purchase" their lunch. Menus may be printed on cards or written on the chalkboard. Realistic prices should be listed for the various items, but care should be exercised to keep the necessary making of change within the achievement level of the "customer."

Definite language learnings may be developed through this activity, reading skills practiced, and manners appropriate to a commercial eating place may be taught. Middle and upper grades also may profitably participate. At these levels a collection of menus from commercial eating places might be studied; foods and prices discussed and typical meals selected; checks made out, and the different ways of paying one's bill dramatized.

3. PLAY STORE:

A play store using clean empty cans with the labels still on them is an excellent project for all grades. Children may purchase items listed on the menu for the day from the store. Real money should be used for these activities. A permanent record of the money in the "bank" and in the "cash register" may be kept on the chalkboard, e.g.;

5 pennies = 5¢
6 nickels = 30¢
3 dimes = 30¢
65¢

After each day's transactions the funds on hand are checked against the record.

Shopping language and etiquette, both from the standpoint of the clerk and the shopper are taught. Such phrases as the following may be practiced:

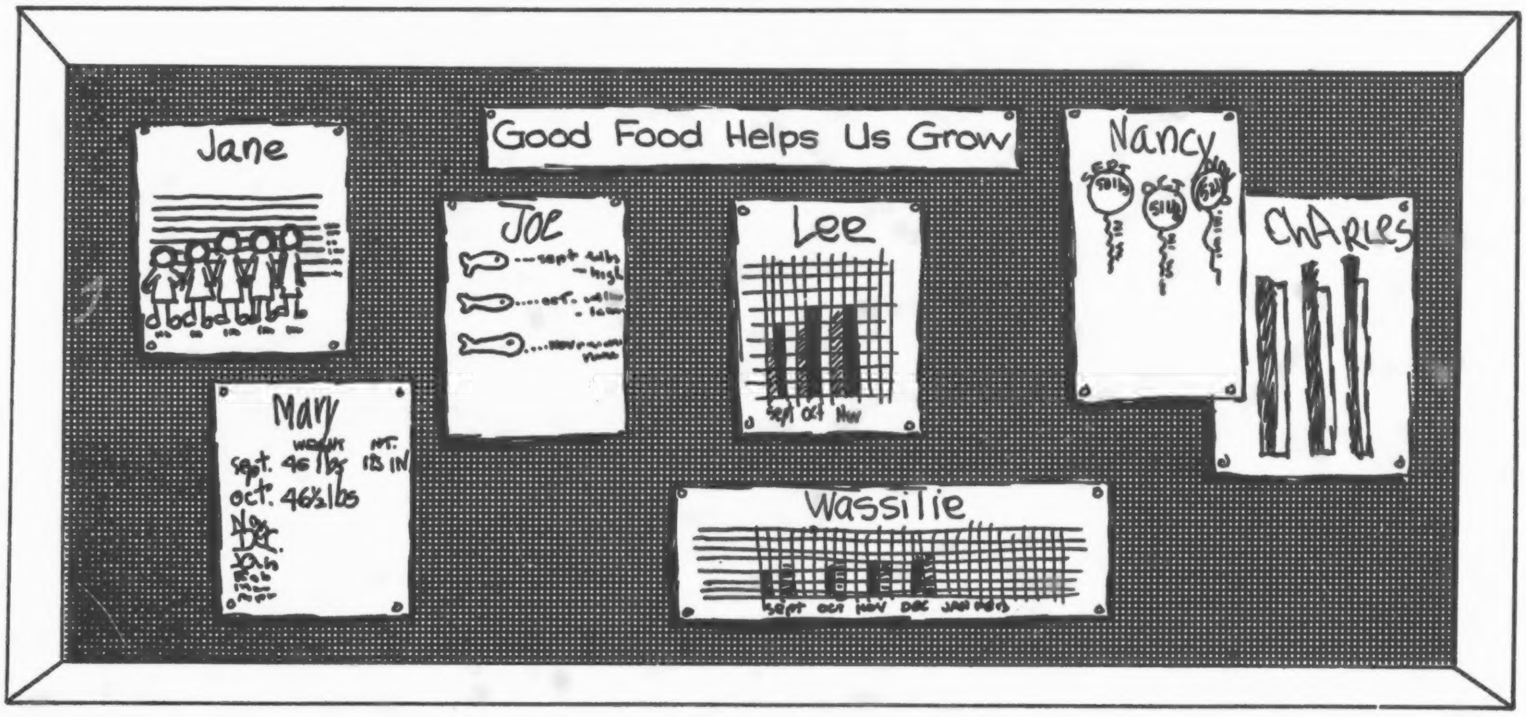
"May I help you, please?"
"Do you have dried fruit?"
"What is the price of powdered milk?"

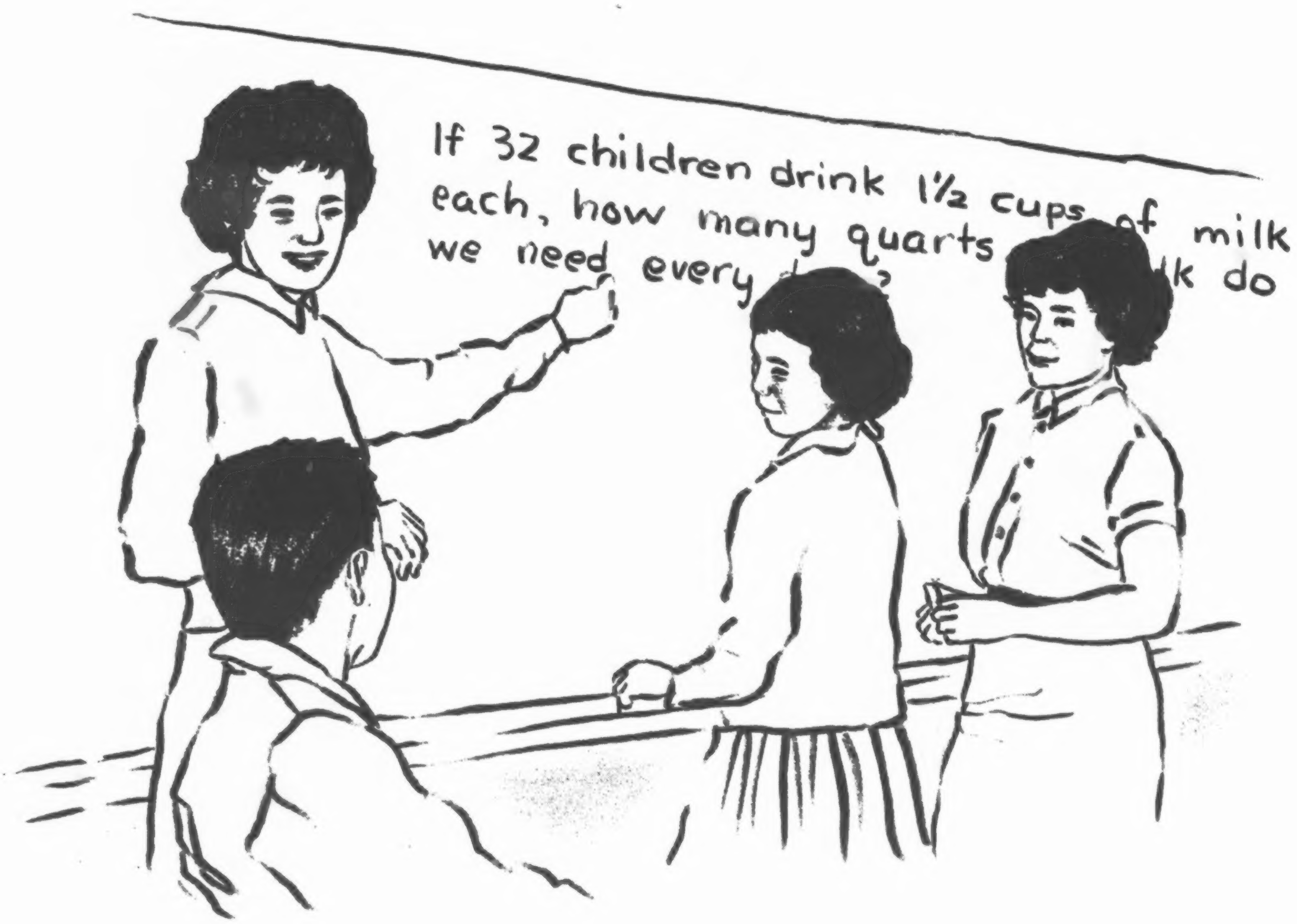
The importance of requesting assistance when needed and of speaking clearly and distinctly are stressed. The correct procedures in making change are taught. The cooperation of the village storekeeper might be enlisted in teaching advanced students who will be learning how to make out grocery orders, pay bills, etc.

4. MAKING HEIGHT AND WEIGHT CHARTS:

A Health Record Chart showing the height and weight of all pupils is always displayed in the classroom. Pupils make their own personal charts, noting each month a loss or gain in weight. A variety of activities may be correlated with this project, e.g.,

Writing numbers.
Adding, subtracting gains and losses.
Finding average weight of the class.


Good Food Helps Us Grow
Jane
Joe
Lee
sept oct Nov
Nancy
Charles
Mary
weight
ht.
sept. 45 lbs 13 IN
oct. 46½ lbs
Nov.
Dec.
Jan
Wassilie
sept oct nov dec jan feb


If 32 children drink 1½ cups of milk
each, how many quarts
lk do
we need every

A Unit of Study For Middle and Upper Grades

FROM PRODUCER TO CONSUMER

A. Objectives:

1. To relate arithmetical concepts to meaningful life experiences.

2. To develop understanding of the part arithmetic plays in food production and consumption.

3. To develop understanding of costs involved in conducting a school lunch program.

4. To introduce in meaningful situations, and give practice in the use of, the arithmetical process and skills related to food production and consumption.

5. To give pupils experience with various units of measure.

B. Producer:

1. FOOD GROWN ON:

a. Truck farms
b. Large farms
c. Ranches

Arithmetic can be used by computing the size of farms in terms of length and square measures. A study of foods which are produced on farms can be related to the use of Measures of Weight, Dry Measures, Liquid Measures and Cubic Measures. Measures of Time can be used in computing hours of labor required in planting and harvesting certain crops, and the time required for different crops to reach maturity.

2. MANUFACTURED GOODS:

Compute cost of equipment used in hot lunch program which includes retail price plus freight plus wharfage:

a. Kitchen equipment
b. Pots and pans, dishes
c. Silverware
d. Containers, such as gunny sacks, storage bins, paper boxes, paper bags, napkins.

C. Wholesaler:

1. RAW MATERIALS AND FINISHED PRODUCTS:

a. Fish

The fisherman catches so many pounds of fish. How much money will he receive for them at the current market price?

How many one pound cans of fish could be produced from this many pounds of fish? How much money would be received by the retailer for the canned fish?

b. Berries

A berry picker can pick so many pounds of berries in one day. How much money can she get for them? How many six ounce glasses of jelly can be made from this number of pounds of berries? How much money could the storekeeper get for the jelly?

c. Meat

Research might be conducted to find out how many five pound cans of beef can be realized from a given number of steers. Letters to producers could be part of this project.

D. Retailer:

MARKET FOR FINISHED PRODUCTS:

Show in a given population the amount of various foods needed to supply the demand of that group for a specified time, e.g., How much must a store stock of flour, coffee, milk, staple foods, etc., to supply the needs of that group for a year?

How much food had to be purchased for the school year to feed -------- children one meal?

E. Consumer:

1. PUBLIC

Children may make budgets of various kinds. A school food budget can be worked out as a class project, e.g., How much dried milk to allow for each school week? Also if four quarts of rice are used for each meal and we eat rice with raisins once a week, how long will a 100 pound sack last? The child can draw pictures of a quart of milk or pints or cups to show how much milk should be consumed by himself.

Children in third grade and up can cut out pictures of cups, pints, quarts, gallons, and put in their proper places to answer the questions asked, e.g., Cut out two cups to equal one pint. Have children cut out eggs from colored paper and group by the half dozen and dozen. Make clay eggs and sell in the play store. Have various units of measure in the classroom. Let children use them and compare sizes with food cans from the store.

Find the difference between the cost of powdered milk and fresh milk — delivered to the local consumer, between fresh eggs and dried eggs.

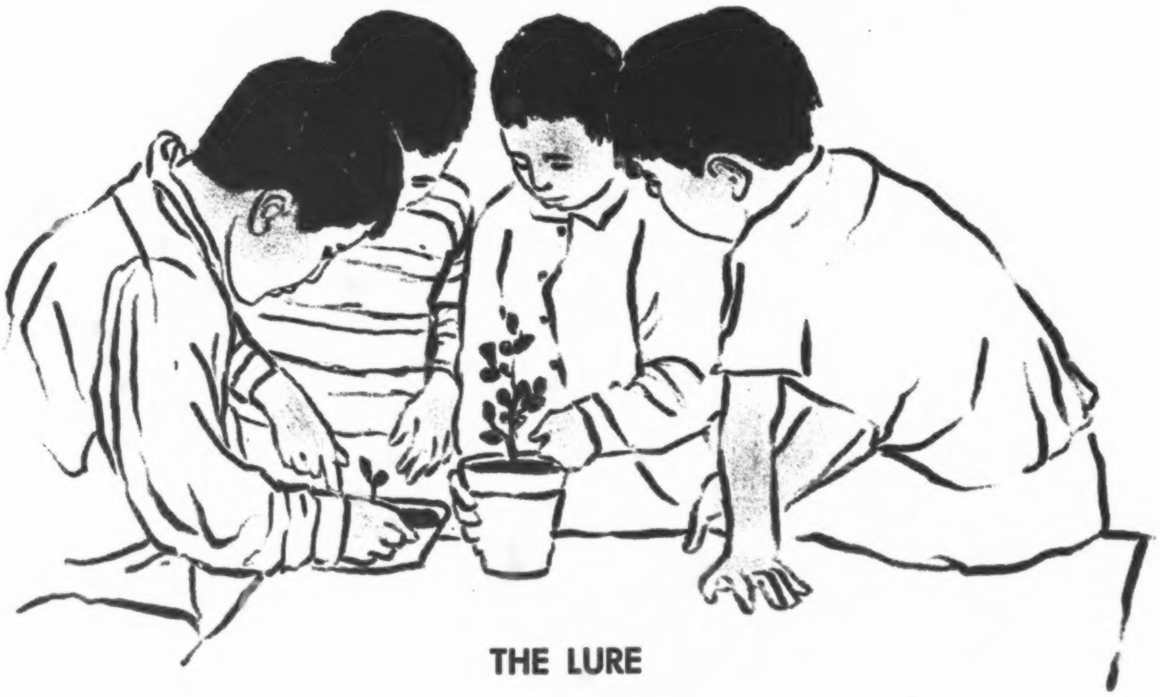
2. AGENCIES — Government, State, County.

Quantity purchased by groups, such as construction groups, hospitals, institutions, etc.

Children can learn of mass quantity buying. Why is it cheaper? A good place to discuss why the Government buys the food in large quantities and distributes it to all the schools.

Compute the yearly cost of school lunches to the Bureau of Indian Affairs in Alaska.

Science



THE LURE

The study of food and health inevitably leads into other fields of science. It is only natural that while examining the relationship between good nutrition and physical vigor, teacher and pupils should be fired with curiosity concerning the sources of food. This leads to plants. Plants lead to soil, seasons, weather and man's role in plant production. Interwoven in this will be found the natural forces of heat, light, air and energy. These conceivably could entice the learner into a rocket ship bound for other planets. If he gets back to earth he may wish to find out how man can further control and make use of the resources he has at hand to improve his earthly environment.

The young scientist, endlessly plagued by the WHATS, WHYS and HOWS of the fascinating universe in which he lives, surrounds the simplest and most familiar objects with innumerable questions, any one of which can lure him into informative research. The scientific concepts imprisoned in an innocent looking slice of bread can open the door to a laboratory of learning where he will INQUIRE, INVESTIGATE, EXPERIMENT, OBSERVE, THINK and USE all resources available to acquire and test knowledge which will help him understand his world.

Suggested Resource Units:

1. Foods from the Tundra
2. Foods from the Sea
3. Foods from the Forest
4. Foods Preservation
5. Conservation of Our Native Food Resources

Objectives applicable to each of these units:

1. To strengthen communication between the home and the school through using the adults of the village as resource persons.

2. To develop respect for the contribution older people have to make to the school and community.

3. To develop respect for native resourcefulness and knowledge.

4. To develop knowledge of, and appreciation for, the nutritional values of native foods.

5. To teach the reasons for, and advantages of conservation of animals, fishes and plants.

6. To develop an awareness of the interdependence of plants and animals:
    a. the caribou feeds upon lichens
    b. the mooee feeds upon vegetation
    c. the walrus feeds upon clams, etc.

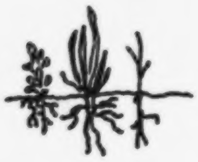
7. To develop an attitude of research to discover factors which help or hinder the growth, well-being and multiplication of fish and game animals.

8. To develop knowledge of, and respect for, fish and game regulations.

Correlated learnings:

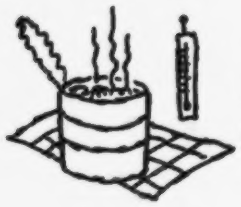
1. **LANGUAGE** — through story telling and writing; interviewing and reporting.
2. **READING** — through experience stories and research.
3. **SPELLING** — through related written work.
4. **ARITHMETIC** — through computing expenses involved in food gathering, savings realized in obtaining foods from nature.
5. **HEALTH** — through study of nutritional values of native foods, proper methods of food handling and preservation.

Sample activities:



1. Planting seeds and observing the relationship of sunlight, water and food to plant growth. Relating this to growth in animals.

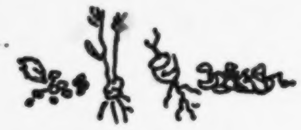
2. Balancing an aquarium: Supplement gold fish, guppies or tadpoles with snails and plants. Observe how they eat, breathe, move and grow.



3. Studying and observing conditions which cause food spoilage. Experiment and keep records concerning conditions, time element, temperature, etc. Inspect the school refrigerator to learn how it operates.

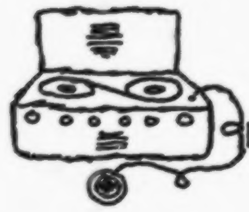
4. Studying diets of certain dogs in the village. Observe differences in appearance and vigor as related to food provided. (Consent and cooperation of owners should be obtained before launching this activity).

5. Observing germs under the microscope to find out why it is necessary to sterilize dishes and utensils.



6. Making collections of edible plants available in the area.

7. Compiling and illustrating booklets of experience reading stories.



8. Making tape recordings of talks made by experienced hunters and food gatherers. Later, these may be edited and transcribed into written stories.

9. Demonstration and evaluation of food preservation techniques. (This could be correlated with adult education classes).

10. Studying and comparing the present availability of native foods in the area with past conditions.

11. Studying methods of conservation and evaluating need for conservation in Alaska.

12. Comparing Alaska with countries where natural resources have been depleted.

13. Studying game laws. Evaluating purposes of regulations and the individual's responsibility in observing them.

Possible Resource Persons:

Older people of the village.
Visiting United States Public Health Serice personnel
Visiting game wardens
Arctic Health Research Center personnel and other scientists

Possible Sources of Reference Materials:

Fish and Wildlife Service — Box 2020, Juneau, Alaska
Dept. of Fish and Game — Alaska Office Bldg., Juneau, Alaska
University Extension Service — College, Alaska
Bureau of Commercial Fisheries Box 2021, Juneau, Alaska
Arctic Health Research Center — Box 960, Anchorage, Alaska

Health

THE PRIMARY TARGET

The possibilities for academic correlations which may be launched from the Menu Pad are limitless. It is important that a preliminary study be made early in the school year and a carefully plotted course leading to the achievement of definite goals be laid out, otherwise teacher and learners may be led into a maze by the lure of social studies, mathematics, and science; not to mention the ubiquitous language arts. Lest the dog which should wag the tail be lost sight of in the presence of so many beckoning interests, it might be well to remind ourselves that **Health** is more closely related to the lunch program than any other subject. One of the immediate goals should be the recognition of the relationship of food to growth and good health. This knowledge should lead to the development of good eating habits and a lifelong interest in good nutrition.

The following section on nutrition education was developed in collaboration with Miss Winston Osborn, Area Nutrition and Dietetics Officer, PHS Alaska Native Health Area Office.

HEALTH PROBLEMS RELATED TO NUTRITION

Nutrition education to be effective must be adapted to the particular needs of the children and adults being taught.

In Alaska a combination of social and environmental conditions have brought about several acute health problems which are related to nutrition. These problems stem from a rapid cultural transition from a hunting and fishing economy to a money economy, increasing dependence on white man's food, seasonal food shortages, larger permanent villages, severe climatic conditions, difficulties in controlling and solving sanitation problems, insufficient general knowledge of good health practices, and some severe alcoholism.

Among the major health problems related to nutrition and identified by the combined investigation of the Alaska Department of Public Health and PHS Alaska Native Health Area Office, are:

1. Respiratory tract infections such as colds, influenza, pneumonia, and tuberculosis.
2. Dental decay and diseases of the gum with resulting dental difficulties.
3. Gastro-intestinal disorders such as diarrhea, hepatitis, and food poisoning.
4. Eye, ear, nose and throat infections and impairment.

Recognition of these health needs have been the basis for the particular objectives and specific learnings suggested for classroom nutrition education.

Objectives

The aim of the school nutrition education program and the school lunch program is:

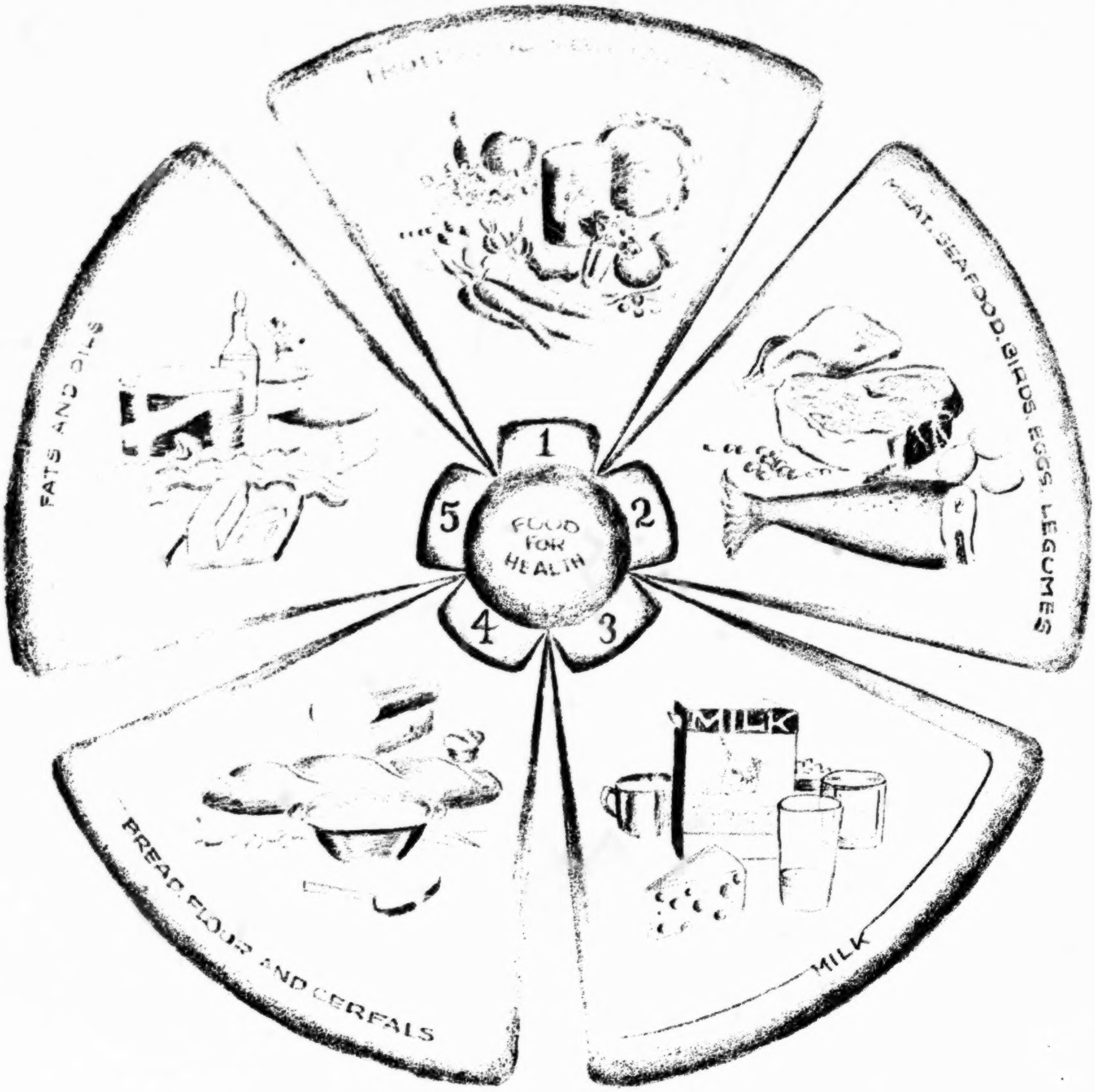
1. **TO IMPART** to the child a knowledge of simple nutrition principles.

2. **TO DEVELOP** an appreciation by the child for the importance of good and safe food in the child's health, growth and development.

3. **TO ENCOURAGE** the child's application of these basic nutrition principles to his daily living.

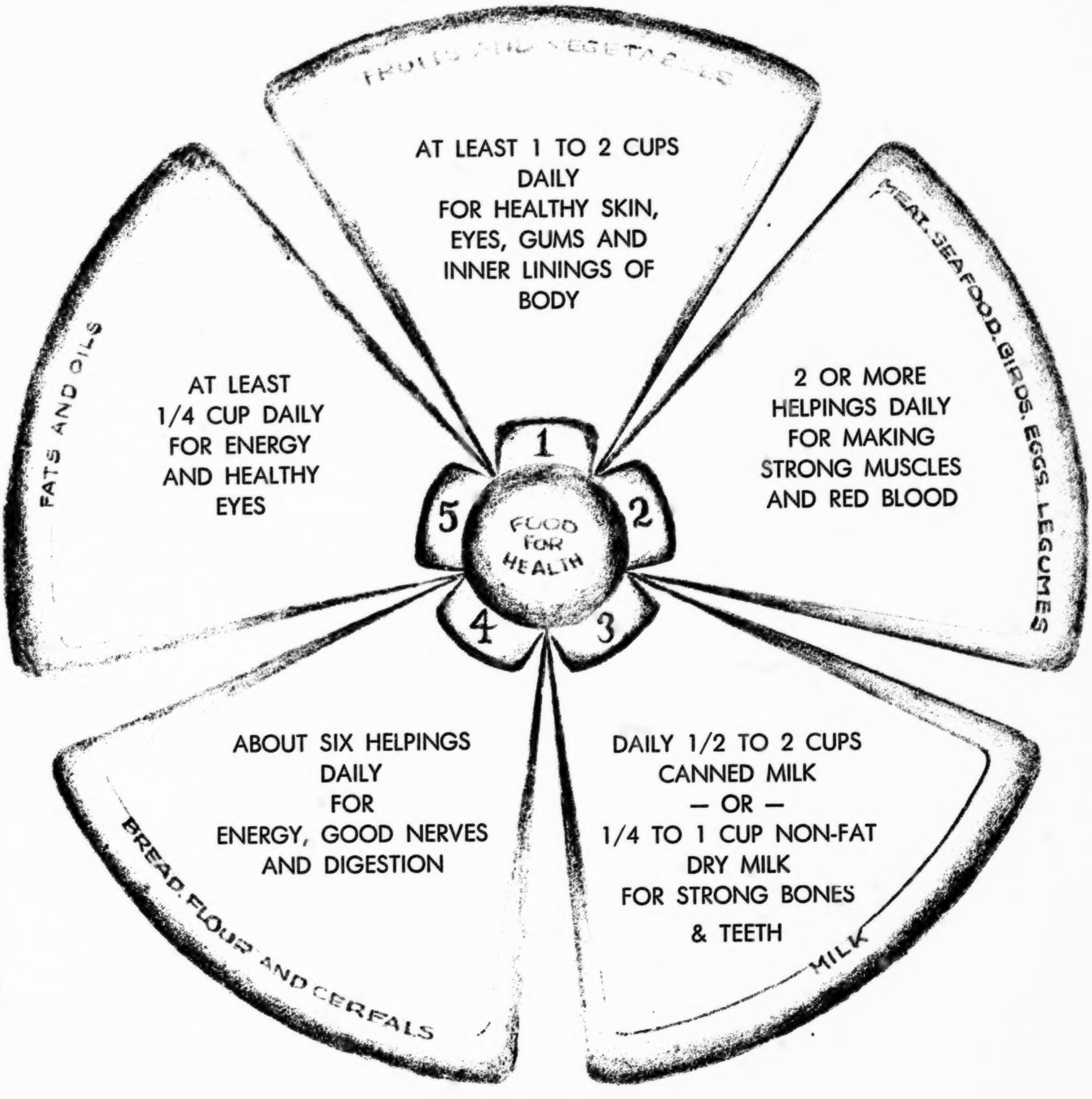
4. **TO ADAPT** these nutrition principles in teaching to the local resources in a practical way.

ALASKA BASIC FIVE FOOD GROUPS


1
MEAT, SEAFOOD, BIRDS, EGGS, LEGUMES
2
MILK
3
MILK
4
BREAD, FLOUR AND CEREALS
5
FATS AND OILS
FOOD FOR HEALTH

A DAILY FOOD GUIDE

DEVELOPED BY DR. CHRISTINE HELLER, ARCTIC HEALTH RESEARCH CENTER; AND MISS WINSTON OSBORN, AREA NUTRITION AND DIETETICS OFFICER, PHS ALASKA NATIVE HEALTH AREA OFFICE.


FOOD FOR HEALTH
1
FRUITS AND VEGETABLES
2
MEAT, SEAFOOD, BIRDS, EGGS, LEGUMES
3
MILK
4
BREAD, FLOUR AND CEREALS
5
FATS AND OILS

AT LEAST 1 TO 2 CUPS
DAILY
FOR HEALTHY SKIN,
EYES, GUMS AND
INNER LININGS OF
BODY

2 OR MORE
HELPINGS DAILY
FOR MAKING
STRONG MUSCLES
AND RED BLOOD

DAILY 1/2 TO 2 CUPS
CANNED MILK
— OR —
1/4 TO 1 CUP NON-FAT
DRY MILK
FOR STRONG BONES
& TEETH

ABOUT SIX HELPINGS
DAILY
FOR
ENERGY, GOOD NERVES
AND DIGESTION

AT LEAST
1/4 CUP DAILY
FOR ENERGY
AND HEALTHY
EYES

Note to Teacher: — What is the Alaska Basic Five Food Groups Guide?

This daily food guide is adapted from the "Food for Fitness Daily Food Guide" developed for the United States in 1958 by a committee of National specialists in food an nutrition. (It is a revision of the World War I I Basic 7 Foods Groups Plan).

This Alaska version uses the same four food groups, plus fats, but adds the many "Native" foods traditionally eaten and enjoyed by Alaska's Eskimo, Indian, and Aleut citizens. These "Native" foods are very nutritious and the newer residents of Alaska also eat and enjoy many of them.

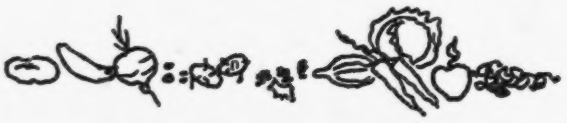
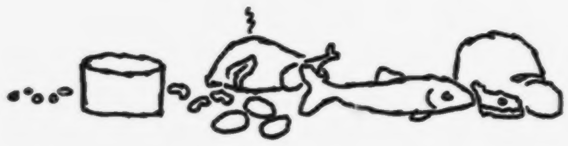
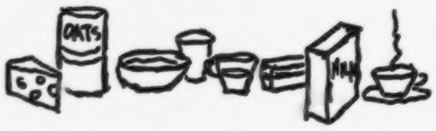
This Alaska food guide also stresses those "store foods" most available throughout Alaska's small villages and towns. These are the canned, packaged, and dried foods. An effort has been made to list those "store foods" which have the most food value and are the most economical.

The amounts of food in each group which are recommended for daily eating are based on the usual present eating patterns of the Eskimo, Indian, and Aleut people. That is, a combination of "Native" and "Store foods." However, a cautious increase in Groups 1 and 3 is built into the guide to attempt to improve present eating patterns. Hence, the recommended amounts differ from those in the "Food for Fitness Daily Food Guide," but they will provide a nutritionally adequate diet.

Nutrients provided by the five groups in the Alaska version are the same as those provided in the "Food for Fitness Daily Food Guide."

For the upper grades the scientific names of the principal nutrients may be taught after there is an understanding of the daily diet in terms of food groups. In this instance, the Alaska Basic Five Groups plan is suggested.

The following information on the principal nutrients in each food group is given to associate nutrients with groups. Thus it can be seen that the food groups are interdependent in supplying nutrients to make up a "balanced" daily diet.

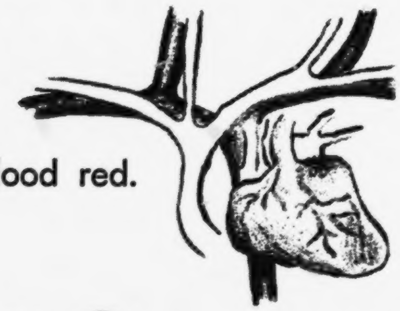
GROUP 1  Fruits and Vegetables	Important for: Vitamin A Vitamin C	Also contributes: Iron Calcium Calories Water
GROUP 2  Meat, Seafood, Birds, Eggs, Legumes (dried peas and beans, peanut butter).	Important for: Protein Iron B Vitamins Calcium — if bones, cartilege or stomach contents are included, such as needlefish, blackfish, clams, crabs, caribou bone marrow and caribou stomach. Vitamin A — if food includes oil, such as salmon, seal, whale, etc.	Also contributes: Water Calories
GROUP 3  Milk	Important for: Calcium Riboflavin (B Vitamin) Protein	Also contributes: Vitamin A (in whole milk only)
GROUP 4 Bread, Flour and Cereals	Important for: Calories Iron B Vitamins	(if whole grains, as oatmeal and whole wheat flour, or "enriched" or "restored products.")
GROUP 5 SEAL OIL SHORTENI Fats and Oils	Important for: Calories Vitamin A	If fish or sea mammal oils and fats or margarine.

ALASKA BASIC FIVE FOOD GROUPS CHART

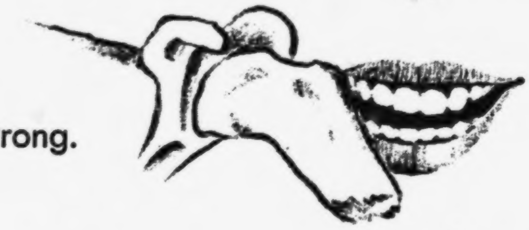
A DAILY FOOD GUIDE

The food we eat should do many things to help our bodies. It should:

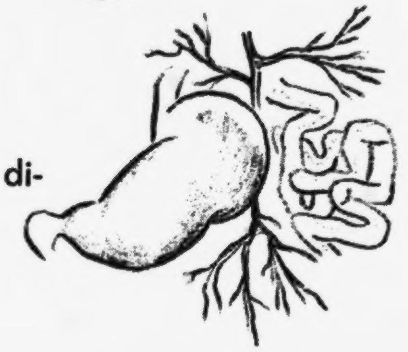
1 Make and keep our skin, eyes, gums and all the soft inner linings of our body healthy.



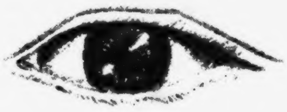
2 Make and keep our muscles strong and our blood red.



3 Make and keep our bones and teeth strong.



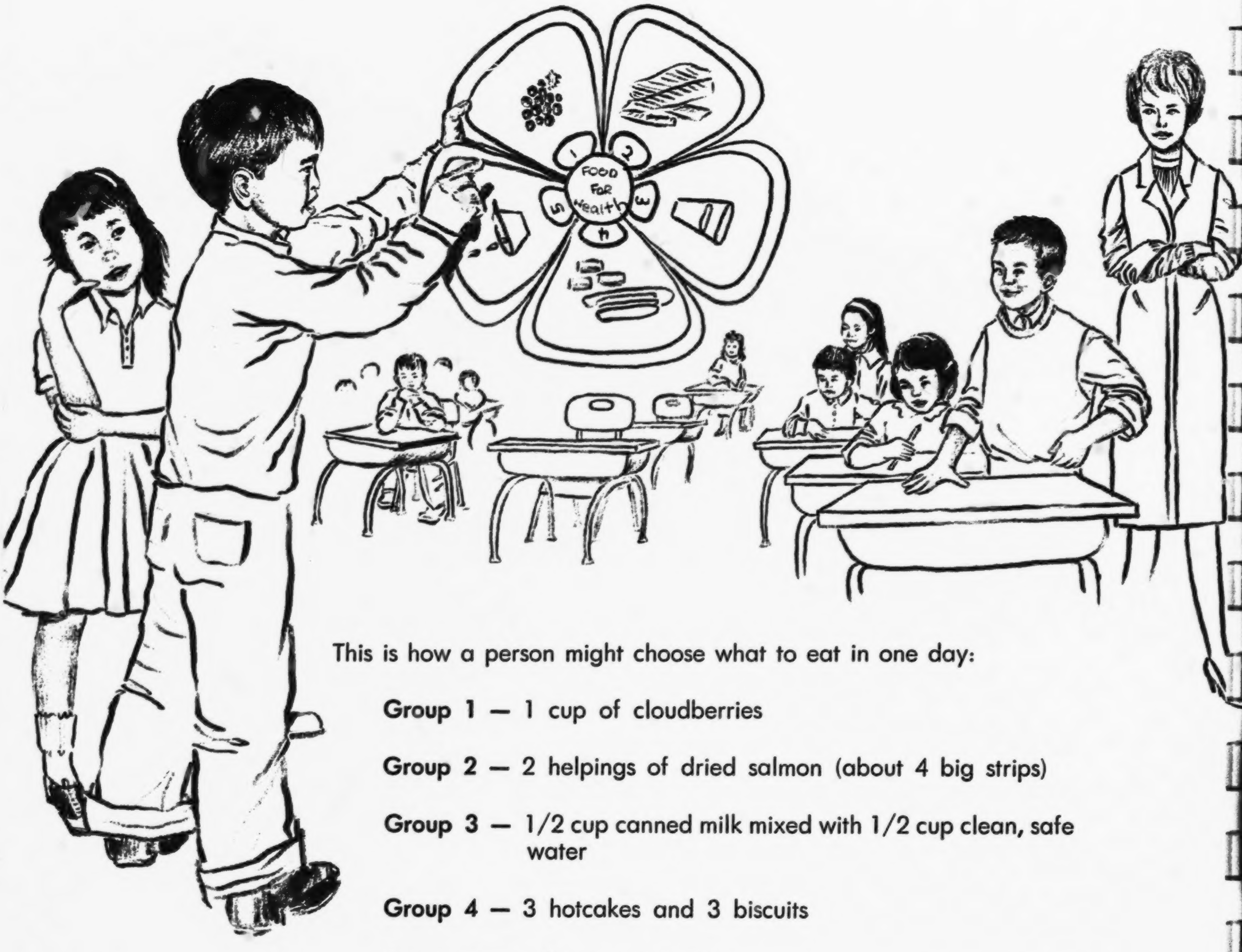
4 Give us energy and warmth and help our nerves and digestion.



5 Give us energy and warmth and help our eyes.

This guide is one way to help us choose our foods wisely every day from what we have around us. The chart shows that each of the five food groups is especially good for our body in one of the five ways listed above. The foods within each group are much alike. For example, cloudberries are much like canned orange juice. Either will help keep our gums healthy.

To properly use this chart, try to eat at least one helping of a food from each group every day. The chart tells how big a helping is. We may eat more, especially if we are growing or working hard. If we are very young, we may eat less. If we are expecting or nursing a baby, we should try to eat more from Groups 1, 2, and 3.



This is how a person might choose what to eat in one day:

Group 1 — 1 cup of cloudberries

Group 2 — 2 helpings of dried salmon (about 4 big strips)

Group 3 — 1/2 cup canned milk mixed with 1/2 cup clean, safe water

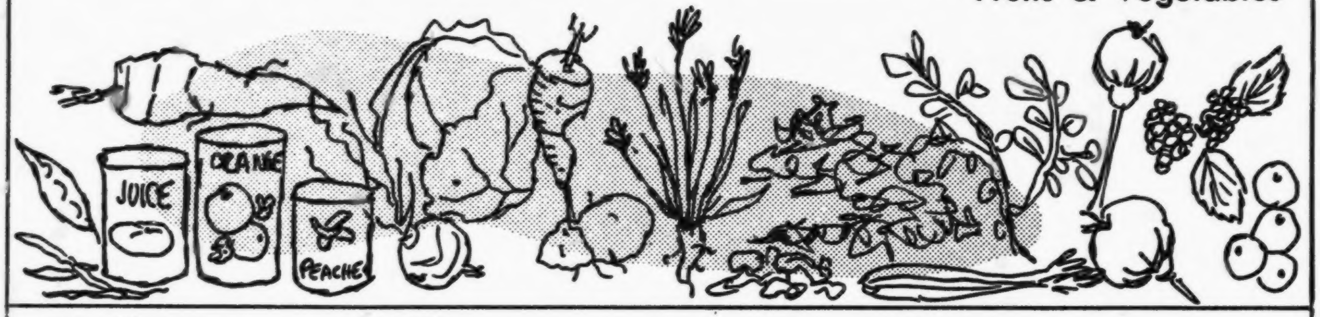
Group 4 — 3 hotcakes and 3 biscuits

Group 5 — 1/4 cup seal oil

ALASKA BASIC FIVE FOOD GROUPS

1

Fruits & Vegetables



Cloudberries
Salmon berries
Rose hips
Blueberries
Blackberries
Other berries

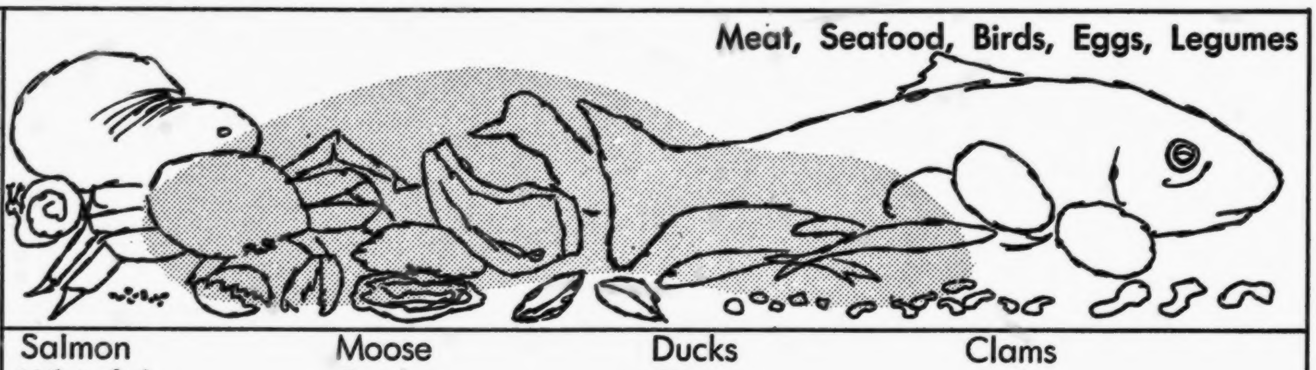
Willow greens
Wild spinach
Wild rhubarb
Wild celery
Sourdock
Beach greens
Seaweed
Other greens
and roots
Mousenuts
Eskimo, Indian,
or Eek potatoes

Raw cabbage
Canned orange juice
Canned tomatoes
Canned tomato juice
Canned or dried apricots
Canned or dried peaches
Garden or canned spinach
Garden or canned turnip
greens or other greens
Garden or store potatoes
Garden or canned green peas
Garden or canned green beans

Plus other fruits and vegetables

2

Meat, Seafood, Birds, Eggs, Legumes



Salmon
Whitefish
Sheefish
Tom Cod
Herring
Trout
Smelt
Grayling
Halibut
Needlefish
Blackfish
Other fish
Fish eggs
and fish livers

Moose
Caribou
Bear
Muskrat
Beaver
Porcupine
Rabbit
Reindeer
Seal (oogruk and
other)
Whale (beluga and
other)
Walrus
All livers but bear livers
Other game

Ducks
Geese
Ptarmigan
Grouse
Spruce hen
Other birds
Eggs

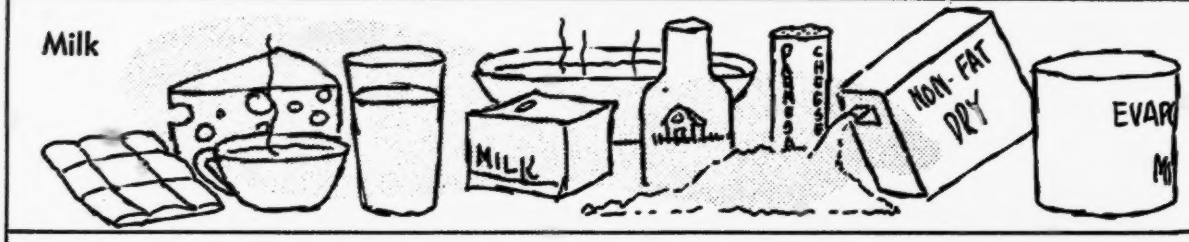
Clams
Crab
Cockles
Mussels
Badarki (Chiton)
Snails
Other seafood

Canned meat, fish or bird

Legumes — Dry and dry canned beans (lima, navy, pinto and red)
Peanut butter

3

Milk



(Suggested amounts on chart refer to the milk before water is added).

For drinking alone or in coffee or tea or cocoa.
For cooking in hotcakes, breads, mush, soups and other dishes.

Canned milk
Dry nonfat milk
Other milk
Cheese is also made from milk

4

Homemade Breads, Flour, and Cereals

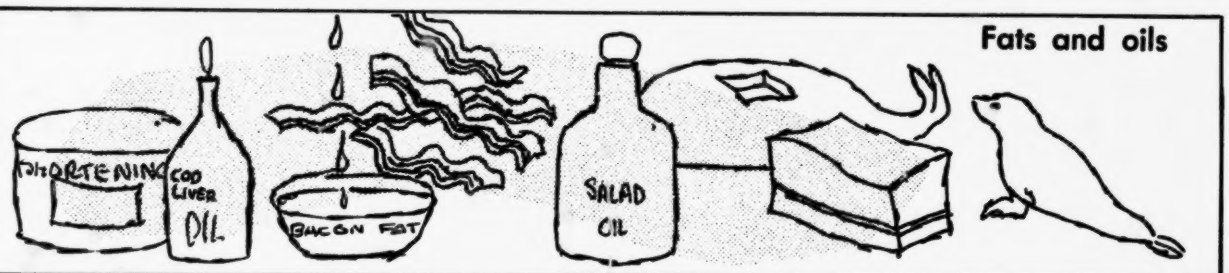
When buying these foods, try to pick those labeled "whole grain," enrich or restored. They are the best for our bodies.

Oatmeal mush
Other mush
Hot cakes
Biscuits
Bannock
Fry bread
Pilot biscuits
Yeast bread
Other breads

Rice
Spaghetti
Macaroni
Other starchy foods

5

Fats and oils



Foods in the first column are good for healthy eyes and energy.
Those in the second column are good for energy.

Seal oil
Other sea animal oil
Muktuk (whale blubber)
Fish oils
Oleomargarine

Lard and other shortening
Salad oils
Bacon

A STUDY GUIDE FOR NUTRITION EDUCATION

Primary Grades

This study guide and those on succeeding pages, are presented in the hope they will assist teachers in their search for ideas and materials which will give nutrition education a more functional purpose. In planning a unit, the teacher should select from the following suggested learnings and activities those most pertinent to the village situation, being careful to include concepts in both nutrition and sanitation.

Note — A record of the learnings presented should be kept to prevent repetition in subsequent grades.

Suggested Learnings	Suggested Activities	Desirable Outcomes
1. Learn to recognize and name familiar foods both local native, and store foods. Learn to eat most of these foods when served.	1. Name foods while eating at the school lunch period. Find familiar foods in pictures. Start a foods picture book, using original drawings and pictures from magazines. Tell about foods eaten at home using both native and English names. Tell where native foods come from, for example: berries from the tundra, fish from the sea. Take a field trip to gather edible plants and berries. Contribute to experience stories about field trip activities. Help arrange an interest corner using plants, berries and pictures. Tell how Mother gets plants and berries. Tell how Father hunts and fishes for food. Contribute to experience stories about Father's hunting and fishing. Read and illustrate the stories. Bring pictures from home of food gathering activities. Start a play store, using cans and packages with labels in tact. Shop in English.	1. Is able to name in English most of the foods eaten at home and at school. Has acquired some of the skills of reading readiness. Knows that both native and store foods are good. Eats and enjoys both native and store foods when available. Has acquired manual dexterity through art work. Recognizes some edible plants and berries found locally. Has acquired some shopping language. Has learned to recognize some units of money. Has increased knowledge of numbers.

Primary Grades

Suggested Learnings	Suggested Activities	Desirable Outcomes
2. Learn that eating makes us feel good.	2. Tell how one feels when hungry. Then tell how one feels after eating. Pick out dogs in the village that look well fed. Compare them with dogs that appear ill fed. Talk about how food helps people and animals be healthy. Tell how school lunch helps children.	2. Has a growing appreciation for the school lunch and relates it to the school's interest in his well-being.
3. Learn that foods helps us grow.	3. Start a height and weight chart.	3 & 4. Shows interest in growth and signs of good health. Relates these to the food he eats.
4. Learn some of the obvious signs of good health. (Absence of colds, good teeth, regular weight gaining.)	4. Watch for changes in growth each weighing period.	
5. Learn how we take care of our teeth. (Brushing teeth and avoid excessive use of sweets).	5. Make a set of teeth from construction paper and learn how to brush them by watching a teacher demonstration. Brush own teeth using water, soda and salt cleaner; (1/3 salt and 2/3 baking soda). Look for people with good teeth and find out what they ate when their teeth were growing. Look in a puppy's mouth to see the condition of his teeth. Talk about the food a puppy eats that helps him have good teeth. (Stress absence of sweets and presence of hard, coarse foods).	5. Knows teeth should be brushed after eating when possible. Buys and eats nutritious foods more often.

Primary Grades

Suggested Learnings	Suggested Activities	Desirable Outcomes
6. Learn that hands should be washed before eating, before handling food, and after going to the toilet.	6. Practice hand washing at times needed.	6. Washes hands when necessary without being told.
7. Learn that we cover coughs and sneezes.	7. Cover coughs and sneezes.	7. Covers coughs and sneezes.
8. Learn that the eating surfaces of dishes and silverware should not be handled.	8. Practice proper handling of dishes and silverware.	8. Handles dishes properly when assisting with lunchroom chores.
9. Learn that dishes and silverware should be washed and rinsed after eating.	9. Practice proper dishwashing and rinsing with minimum equipment.	9. Knows that dishes should be washed and rinsed after eating.
10. Learn not to eat food or use silverware that has been in contact with the floor.		10. Does not eat food or use dishes that have been in contact with the floor.
11. Learn to recognize local poisonous plants.	11. Take a field trip with an adult who can identify poisonous plants. Draw pictures of plants identified. Invite another class to a Show and Tell period.	11. Recognizes poisonous plants found locally.

Culminating Experience: Invite parents to school to see children demonstrate mastery of learnings, using real food if possible.
strate mastery of learnings, using real food if possible.

A STUDY GUIDE FOR NUTRITION EDUCATION

MIDDLE GRADES

3 — 5

Suggested Learnings	Suggested Activities	Desirable Outcomes
1. Learn and be able to classify both local native and store foods as fruits, vegetables, meats, cereal foods, fats, sweets and milk foods.	1. Classify foods eaten at lunch as vegetables, fruits, meats and meat substitutes, breads, cereals and milk foods.	1. Is able to classify local native and store foods.
2. Learn to like unfamiliar foods from both local native and store sources.	2. Eat most of the foods served in the lunch program.	2 & 3. Eats an increasingly varied and nutritious diet when aailable.
3. Learn the various forms of foods used in the school meals, for example: apricots as juice, canned, or dried; milk as a beverage and as an ingredient in cooked foods.	3. Prepare an exhibit of various forms of these foods. Learn to read the labels. Taste the unfamiliar forms of foods.	
4. Learn both English and native names for local edible greens and berries.	4. Develop a chart showing when these are gathered. Invite an adult to accompany the class on a field trip to collect specimens or to visit the class to describe gathering and preserving methods. Press plant specimens and arrange in an interest corner.	4 & 5. Has a growing appreciation for the contribution adults have to make to the school program. Has a growing appreciation for the value of native foods.

MIDDLE GRADES

3 — 5

Suggested Learnings	Suggested Activities	Desirable Outcomes
5. Learn both English and native names for foods obtained through hunting and fishing.	5. Develop a chart showing when the different types of seafoods, game and fowl are obtained. Invite an adult to help with this, if possible.	
6. Learn that different foods help different parts of the body. (Refer to the Alaska Basic Five Food Groups, pages 216-220).	6. Take a school lunch menu and tell how each food helps the body. Develop a menu composed of native foods and tell how each food helps the body.	6. Has a growing knowledge of what food does for the body.
7. Learn the signs of good nutrition. Good posture, clear skin, shiny hair, pink gums, good teeth, absence of colds and ear infections.	7. Discuss personal growth based on height and weight records. Discuss and become aware of other signs of good nutrition. (Resource persons: Health personnel. Reference: Part 1, page 72). Start an indoors seed growing project, giving adequate plant food, water and light to one box and inadequate to the other. Observe differences in growth and relate to growth of children. Develop an outdoor gardening project, if possible.	7. Knows and recognizes some of the physical signs of good nutrition.

MIDDLE GRADES

3 — 5

Suggested Learnings	Suggested Activities	Desirable Outcomes
8. Learn that correct tooth brushing habits help prevent tooth decay. Learn that all sweets in excess (candy, pop, and gum) contribute to tooth decay. Learn that dried fruit and similar coarse foods, as dried fish and muktuk, should be substituted for artificial sweets taken as snacks.	8. Review by pupil demonstration correct way to brush teeth. Discuss which foods cause tooth decay. (Use health person as a resource, if available).	8. Knows how to brush teeth correctly and knows effects of sweets on teeth.
9. Learn that sickness can be passed from one person to another through food and water.	9. Discuss food and water borne diseases occurring in the villages.*	9. Does not handle food of others when sick. Knows that disease can be carried by food and water.
10. Learn to help prevent the spread of sickness through the proper washing of hands and dishes.	10. Practice and be able to tell why hands are washed before eating. Observe and discuss proper dish washing methods used in lunch program.	10. Washes hands when necessary and understands reasons for proper handling and methods of washing dishes.
11. Learn that improperly handled, cooked or preserved foods can carry poisons that make us sick.	11. Arrange with an adult a field trip to obherve best butchering and preserving activities. Have an adult or older child describe another season's butchering and preserving method. Develop a written record of proper methods. Resources: University of Alaska Evtension Service; Alaska Department of Public Health, Juneau, Alaska; Arctic Health Research Center, Anchorage; and Alaska Native Health Area Office, Anchorage.**	11. Knows why people should be careful in cooking and preserving foods.

Culminating Experience: Collect and discuss nutritious native and school lunch recipes with the help of an adult (for example: seal blood soup, Eskimo ice cream, breads or cereals made with dry skim milk, stews and soups made with canned tomatoes).
Compile these in a recipe booklet to be presented to Mother as a birthday or other special day gift.

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* Refer to **A Sanitation Guide for Alaska Sanitation Aides,** Division of Health, State of Alaska.

A STUDY GUIDE FOR NUTRITION EDUCATION

UPPER GRADES
6 — 8

Suggested Learnings	Suggested Activities	Desirable Outcomes
1. Learn the Alaska Basic Five Food Groups. (Refer to chart showing both native and store foods, pages 219, 220). Learn what each food group provides to maintain health and growth. (Refer to Note To Teacher, pages 215-217).	1. Study, or review the Alaska five food groups shown on the Alaska Basic Five Chart. Add local foods not named on chart to the proper group. Become acquainted with the common nutrients in each group, (carbohydrates, proteins, fat, calcium, iron, vitamins; A, B complex, and C, and water.	1. Is able to group foods according to the five food groups. Knows the functions of each food group.
2. Learn that a proper diet increases resistance to eye, ear, nose, throat, lung, and other infections too frequently seen in Alaska villages.	2. Take the Alaska Basic Five Food Chart and identify the chief nutrients in each group. (Part II, pages 213-220.)	2. Is able to plan a nutritious daily diet, using the foods available.
3. Learn to select foods to improve or maintain good personal appearance and physical fitness. Learn to like foods in all five groups which are available locally.	3. List both native and store foods eaten over a period of three days, and classify them by the Alaska Basic Five Chart. Check to see how closely each day's diet meets the recommendations of the Alaska Basic Five Food Groups. (Part II, pages 214, 218-220.)	3. Shows increasing intrest in eating foods which will build a strong body and contribute to health. Continues to eat an increasingly varied and nutritious diet, when available.

UPPER GRADES

6 — 8

Suggested Learnings	Suggested Activities	Desirable Outcomes
4. Learn the effects of good nutrition.	4. The effects of a good diet can best be studied through observing a properly fed, cared for baby. If an interested mother will permit the class her healthy baby weighed and measured monthly, and will tell them what the baby eats, a growth record can be qept and correlated with the effects of a proper diet. Enlist aid of available health personnel and study ADPH baby care pamphlet.	4. Appreciates the effects of good nutrition.
5. Learn sources and seasonal availability of native foods.	5. Make a food cycle showing month cr season local native foods are obtained.	5. Apptreciates the value of native foods in the diet.
6. Learn proper hunting and fishing methods, using safety precautions.	6. Invite an adult to tell about hunting and fishing methods, giving background knowledge needed and preparation necessary. Class members make written, illustrated records of this information.	6. Knows how to protect life and health under hunting and fishing conditions.
7. Learn how to select store foods so as to get the most value for the money.	7. Collect prices of as many local foods from each food group as possible. Find out how many servings each food container provides. (Part I, page 85).	7. Knows how to select store foods so as to get the most value for the money.
8. Learn to examine labels for information regarding ingredients and weight, for example: "enriched," "fortified," "vitamin increased," heavy versus light syrup pack.	8. Collect food labels and learn to read the information on them.	8. Knowsthe importance of reading and understanding food labeling.

UPPER GRADES

6 — 8

Suggested Learnings	Suggested Activities	Desirable Outcomes
9. Learn how to do advance planning, using native and store foods to meet family food needs.	9. Estimate amount of foods needed to feed an average family for a season. Suggested headings: Name of Food, Estimated Amount Needed — Per Average Family, Methods of Preservation. (Parents and teachers can provide information based on personal experience. Possible resources to request evaluation of estimates: University of Alaska Extension Service; Nutrition and Dietetic Section, ANHAO.)	9. Has a working knowledge of advance planning to meet family food needs, using native and store foods.
10. Learn that unsanitary food and water can contribute to the spread of diseases such as colds, flu, tuberculosis, hepatitis, diarhea, and typhoid fever which are too common in Alaska villages.	10. Develop a check list to evaluate methods of handling and/or washing food and equipment in the school lunch program. (Use Regulations of ADPH as a reference).	10. Demonstrates a growing sense of responsibility toward handling of food and water.
11. Learn how to make water safe.	11. Study methods of making water safe, using available health personnel as a resource.	11. Shows a sense of responsibility for seeing that all water used by the family is boiled, chlorinated, or comes from a treated community water plant.
12. Learn to help prevent diseases through safe food handling, proper dishwashing procedures with minimum equipment, and proper food storage.	12. Make a survey of the common health problems of the community related to sanitation and food preservation practices. (Refer to page 211 this section): Perhaps study under the guidance of the Sanitation Aide, the few simple changes which could be made to improve sanitation in the homes as it relates to food, water and dishes. (Resources are AHRC and ADPH).	12. Knows proper methods practical in the village home to insure safe handling of food and dishes.

UPPER GRADES

6 — 8

Suggested Learnings	Suggested Activities	Desirable Outcomes
13. Learn precautions in the use of native foods to prevent poisoning; trichinosis, botulism, hydadid, tularemia, bucellosis, fish tapeworms, plant poisons.	13. Study and discuss food preservation practices feasible under local conditions. (Refer to Part I, pages 48-50-ADPH material - AHRC - University Extension Service).	13. Knows precautions to use in choosing and preparing foods to avoid possible food poisoning.
14. Learn relation of food to the condition of teeth.	14. Invite an adult with good natural teeth to tell about the foods he or she ate as a child. Discuss foods which contribute to dental health. (Use ANHAO Dentist as resource).	14. Knows foods which build and maintain good tooth and gum structures and which foods are harmful when used to excess.
15. Learn to remove promptly sweets from teeth by mouth rinsing, eating coarse foods, or tooth-brushing.	15. Be able to tell orally and in writing what brushing the teeth accomplishes. Show through demonstration how it should be done. Know the proper equipment to use when it is available. Know the substitutes that can be used. (Reference: write to the nearest Alaska Native Hospital Dentist for reference material). Learn that when possible everyone should have a yearly dental checkup.	15. Condition of teeth show effects of reasonably good tooth brushing and eating habits. Knows several ways to protect teeth from potential decay.
16. In correlation with the school lunch program, learn to cook simple, inexpensive dishes which could also be used at home, such as cereals, hot breads, meat and vegetable dishes and dried fruits.	16. As a learning experience, prepare simple, inexpensive dishes for the school lunch, possibly under the supervision of the cook. Compile the recipes used in a booklet. Note to teacher: Time devoted to this activity should not rob the student of needed instruction in academic subjects. References: SCHOOL LUNCH AND LEARNING, Part 1, Alaska University Extension Service, ANH Nutrition and Dietetics Section.	16. Knows how to prepare simple, inexpensive, nutritious foods which can be used in the home.

Adult Education

ADULT EDUCATION

Blending Wisdom and Enthusiasm

To a people in a cultural transition adult education is equally as important as child education. Children who learn new ways of living, ways which may be in opposition to tradition, find that they can not put them into practice without parent approval. Often, partly for lack of understanding, this approval is withheld. Frustration and conflict develop, slowing the processes of acculturation, eventually destroying family unity and community cohesion. This reluctance to give the green light to youth in their rush from one culture to another is not entirely without justification. Youth's enthusiasm for shedding all things old and adopting all things new can result in a lamentable cultural loss. Consider the matter of food, peoples who eat off the land have knowledge of foods which could be valuable, even in a supermarket culture. Unfortunately, the food knowledge carry-over from a primitive to a sophisticated society is minimal. The young people quickly learn about packaged foods and can openers. They generally show indifference to the food lore which enabled their forebears to supply themselves with a nutritious diet. Knowledge of the nutrients contained in store bought food does not keep pace with the quickly acquired dexterity with the can opener. Consequently a nutritional loss is suffered and ailments begin to appear which the adults associate vaguely with the new diet, but their advice, lacking the weight of definite knowledge, is often ineffectual in influencing the young toward wiser choices.

Adult education gives the parents an opportunity to sit at the desk of the learner. There, parental understanding of ideas which children are so eager to adopt may be developed. Together the elders and the young can examine and evaluate elements of the two cultures, blending adult wisdom and youthful enthusiasm to achieve a more balanced judgement so that those elements from the native culture which appear still suited to current needs may be retained; those from the new, studied and adopted as needed.

It is unrealistic to expect the hard work of food gathering from the land to compete indefinitely with the convenience of buying food at the local store. However, a knowledge of nutrients found in both native and store foods can assist the learner in choosing foods from both sources; one supplementing the other so that the nutritional deficiencies characteristic of peoples in cultural transition may be avoided to some extent.

Time is Learning; Learning is Living

Since the time an adult can devote to classroom learning is limited, it is particularly important that as many interests and needs be met as possible in the time available. A working knowledge of nutrition is important to good health; a working knowledge of other basic learnings is equally important to functional citizenship. Several subject matter areas may be presented simultaneously through correlation.

While mastering some of the principles of good nutrition and good health practices, the adult learner may also be acquiring a fundamental knowledge of:

English
Civics
Spelling
Arithmetic
Geography
Writing

while in the area of general practical knowledge he may be learning:

wiser buying practices
better housekeeping practices
good grooming habits
basic social amenities
better practices in safety.

A creative teacher will develop many methods for weaving related concepts and skills into the presentation of the main subject. Some activities which may be employed effectively are:

a

Developing experience reading materials

1. Menus (class developed)
2. Recipes (class developed)
3. Reading charts based upon new learnings.
   (Examples: Part II. pages 244-247.)
4. How-to-do booklets
   a. How to preserve meat.
   b. How to hunt moose.
   c. How to wash dishes.
   d. How to be safe while hunting.

b

Creating opportunities for using oral and written language through:

1. Giving directions
2. Telling how-to-do
3. Planning
4. Evaluating
5. Demonstrating learnings
6. Discussing problems
7. Writing letters requesting information and assistance.

c

Utilizing familiar life situations to develop arithmetical skills and concepts:

1. Developing a family food budget.
2. Weighing and measuring food in cooking, in estimating food needs, etc.
3. Comparing prices of different foods.
4. Estimating savings through using local native foods.
5. Estimating savings through better buying practices.

d

Developing concepts of civic responsibility through:

1. Studying community health problems and planning ways to meet them.

   a. cleanup campaigns
   b. development of safe water sources
   c. better garbage disposal
   d. home improvements

      (1) safe storage for food and water
      (2) cleaning and painting

A Laboratory For Learning

Adults, like children, master new learnings most readily when they are presented in an interesting, meaningful situation. In an economy which forces a consumer to capture his dinner, often just prior to dining, eating and related activities have a high interest appeal. This is not intended to suggest that the adult student must be lured to the educational feast by having coffee and doughnuts dangled in front of his eyes. Such "come-ons" lead away from, rather than toward success in any educational venture. But people to whom hunger is a close acquaintance have a compelling interest in food.

A skillful teacher will capitalize upon this interest and make it an "open sesame" to learning. This clearly suggests integration of the adult education and the school lunch programs. Such a union offers many advantages.

Parent understanding of the purposes and limitations of the school lunch can be developed through group study and discussion. A reserve corps of helpers can be trained through a teaching-learning project, thus assuring competent assistance from the community throughout the year. Furthermore, the lunchroom offers a convenient laboratory for learning where parents and children may study tangible, meaningful problems together and work to achieve common goals. Rapport developed between adults and youth in the lunchroom can reach into the home and community, counteracting to a degree the conflicts which arise from the interaction between new ideas and old.

A STUDY GUIDE FOR NUTRITION EDUCATION

ADULT EDUCATION

Suggested Learnings	Suggested Activities	Desirable Outcomes
1. Learn English names for local store, and native foods.	1. Recognize and name foods available locally. Press local edible plant specimens collected on a field trip. (If class is not in session at time plants are growing, teacher can arrange to collect specimens for use when needed.) Collect and read food labels.	1. Has a working food vocabulary.
2. Learn that certain foods help certain parts of the body (using English names for the parts of the body).	2. Place a large anatomy chart on the bulletin board. Post pictures of obtainable foods around it. Have class connect, with colored yarn, the part of the body helped by that particular food. Note to teacher: (Refer to Alaska Basic Five Food Groups for information.)	2. Knows body building and body maintaining properties of obtainable foods.
3. Learn that native and store foods can be classified, by the way they help the body, into basic groups.	3. Study the Alaska Basic Five Food Groups. Practice placing pictures of obtainable foods in the proper group.	3. Has a working knowledge of food groups.
4. Learn that native foods are equally, or more nutritious than store foods.	4. Study local native foods and compare their relative nutritive value to store foods by consulting the Alaska Basic Five Food Groups and other resource material. For example: same, different, or no value. As a group project develop reading charts about foods studied. (See pages 244-247.)	4. Appreciates and uses native foods regularly.
5. Learn that some food from each group is needed daily to keep us healthy; to help us think and work.	5. Identify some of the village health problems that are the result of poor nutrition. Consult available medical personnel for help in identifying problems.	5. Has a working knowledge of how foods may be used to improve health.

ADULT EDUCATION

Suggested Learnings	Suggested Activities	Desirable Outcomes
6. Learn the quantity of food from each group that is desirable daily to keep one physically healthy and mentally alert.	6. Select from the Alaska Basic Five Chart obtainable foods needed daily from each group. Measure quantities of sample foods from each group desirable daily. Reference Part II, pages 213-214,217-220	6. Applies knowledge of the food groups and quantities desirable to daily diet.
7. Study a school lunch menu to see how much it supplies of the food desirable daily.	7. Properly place the foods in a school lunch menu on the Basic Five Chart. Observe and measure the amount of each food served at a school lunch. Compare amounts with total desirable from each group for one day.	7. Understands that the school lunch furnishes some foods from all five groups.
8. Learn that most of the child's food should come from the home.	8. Plan suggested foods for one day that a child should have at home, using foods available locally.	8. Understands the school lunch furnishes only part of the child's daily food needs, and that the home should provide the major portion.

Suggested Learnings	Suggested Activities	Desirable Outcomes
9. Learn that breakfast is the most important meal of the day.	9. Plan a good family breakfast. This need not be a typical breakfast, as long as it provides about one-fourth of the day's needs. Desirable foods to include are: Meat or meat substitute Fruit or vegetable, including native sources Bread or cereal Fat Beverage Examples: Dried fish and oil Wild blueberries Bread or hotcakes Coffee with canned milk. Resources: School Lunch and Learning, Part I., University of Alaska Extension Service, ANHAO, Nutrition and Dietetics Section.	9. Makes an increased effort to feed the child a breakfast at home.
10. Learn that commonly prepared foods can be improved by various ways.	10. Cook a hotcake or a bread most frequently used in the village by the proper method, using nonfat dry milk as an added ingredient. (Other locally used recipes as stews, soups, etc., could be made more nutritious by adapting school lunch recipes for family use). Compile a booklet of simple recipes. (Resources: same as in November 9.)	10. Knows ways to prepare foods to make them more nutritious.
11. Learn that dental decay is preventable.	11. Name and discuss the available foods that contribute to good dental health, both in building and maintaining healthy tooth and gum structure. Study and demonstrate proper tooth brushing methods. Discuss effect on teeth of excessive use of sweets. Consult available dental personnel for help in this.	11. Applies this knowledge in the home by supporting the school in dental health education as it applies to the children.

ADULT EDUCATION

Suggested Learnings	Suggested Activities	Desirable Outcomes
12. Learn village food buying practices.	12. Study and discuss with class local food buying practices, season by season. Develop as a class project a season by season chart showing when different native foods are available.	12. Has knowledge of local food buying practices.
13. Learn to use native foods when available, to supplement with store foods as needed, and as income and storage facilities permit.	13. Using a local family, plan a written family food order for a period of time practical in terms of home storage and money available. Develop the concept that if a family has fresh and preserved meats and fish ample for needs, cash money should be spent for starches such as whole grain or enriched flour, rice, cereals, etc.; then for fruits and vegetables to supplement native berries and plants; then for dried nonfat and evaporated milk. The miscellaneous foods such as sugar, fats, beverages should be planned for last.	13. Has knowledge of better use of food and money to provide an adequate diet.
14. Learn how to plan a family budget and how to keep simple supporting records.	14. Keep a record of family expenses and income. Compare amount of money spent for food with amount spent for other items such as clothing, fuel, hunting and fishing gear, etc. Resources: University of Alaska Extension Service, BIA and State Welfare agencies and ANHAO Nutrition and Dietetics Section.	14. Has a working knowledge of money management.
15. Learn how to store foods simply and safely.	15. Study and discuss present family food storage practices. Determine if they might be improved with materials available. (Write for storage information to the University of Alaska Extension Service, College, Alaska; and Arctic Health Research Center, and ADPH.) a. storage of staples b. storage of perishables.	15. Increases efforts to properly store foods.

ADULT EDUCATION

Suggested Learnings	Suggested Activities	Desirable Outcomes
16. Learn safe food preservation and preparation practices.	16. Study and discuss present village practices in home preservation and preparation. Discuss any past experiences that indicated preservation was not satisfactory. Attempt to determine the cause and explore possibilities for improvement. (Contact Arctic Health Research Center and University Extension and ADPH for resource persons and material.) Compile written directions on proper methods of food preservation and preparation.	16. Has knowledge of the danger involved in eating improperly preserved and prepared foods.
17. Learn safe food handling and dish washing practices and why they are necessary (Part I, pages 17, 41.)	17. Demonstrate safe food handling and dish washing practices appropriate to typical home conditions. Discuss locally known examples of transmission of disease through improper handling of food and dish washing practices.	17. Applies this knowledge in the home.
18. Learn which plants, meats and sea foods are poisonous.	18. Identify locally known poisonous plants. Discuss any known poisonous meats or sea food that might be available locally.	18. Knows and avoids poisonous plants and other poisonous foods.
19. Learn sources of water contamination.	19. Discuss sources of water and point out ways they become contaminated. (Use resource people such as Sanitation Aides, when available.) Write to the Sanitary Engineering Section of Alaska Native Health for information on health and for help in improving water sources.	19. Has an awareness of the danger of water contamination and a desire to work toward improvement.

Suggested Learnings	Suggested Activities	Desirable Outcomes
20. Learn methods of purifying water.	20. Study and demonstrate two approved methods of purifying water (Part I, page 38.)	20. Practices proper water purifying methods in the home.
21. Learn that nutritious vegetables can be grown in many parts of Alaska.	21. Develop a gardening project with the assistance of the Alaska Extension Service.	21. Has a knowledge of foods that can be grown locally or in other parts of Alaska.

Culminating experience: As a group project plan and serve a balanced meal, utilizing the learnings mastered during the course. The menu should include both native and store foods.

Sample Reading Charts

The following charts are presented as examples of the type of reading material which may be developed by the teacher and students in the adult education program. Many, many other topics of vital interest will be discovered in the study of nutrition which class members will want to choose as the subjects for experience reading lessons. The same procedures as are recommended for developing chart stories with children should be employed with adult learners. For reference, see **Learning to Read Through Experience,** Lamoreaux and Lee.

THE STORE

Our store orders food.

We eat the food.

Food makes us grow.

GROUP I.*

FRUITS AND VEGETABLES

Berries and green plants are good for healthy eyes.

Berries and green plants are good for healthy gums.

Berries and green plants are good for healthy skin.

They keep us healthy inside, too.

So do canned green and yellow vegetables.

So do dried yellow fruit and canned tomatoes.

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* Ala ska Basic Five Food Groups

GROUP II.

MEAT, SEAFOOD, BIRDS, EGGS, LEGUMES

Meats from animals and birds help build red blood and strong muscles.

Eggs and legumes help build red blood and strong muscles, too.

Legumes are dried beans, dried peas, and peanut butter.

Fish help build and keep strong muscles and strong teeth.

Caribou bone marrow makes our teeth strong and healthy.

Caribou bone marrow makes our blood red.

Caribou bone marrow needs to be cooked to keep us from getting food poisoning.

SEAL BLOOD SOUP

Seal blood soup helps make our blood red.

We need red blood to be healthy.

We make seal blood soup this way:

We mix seal blood and dried tomcod eggs.

We put some mousenuts in the seal blood and tomcod eggs.

We put seal oil in it, too.

GROUP III

MILK

Milk helps keep bones and teeth strong and healthy.

Some powdered milk is called dry non-fat milk.

We mix dry non-fat milk with caps water and drink it.

We use dry non-fat milk to cook hotcakes, soups, breads and cereals.

Group IV.

BREADS, FLOUR AND CEREALS

Bread and cereals help us work.

Bread and cereals help the children run and play.

Whole grain flour and cereal are good.

Whole wheat flour is the same as whole grain flour.

Whole wheat bread is the same as whole grain bread.

Oatmeal or rolled oats is the same as whole grain cereal.

There are other whole grain cereals, too.

Our store keeper should order whole wheat flour and whole grain cereals.

We should use the whole grain foods he orders.

Group IV (continued)

ENRICHED AND RESTORED FOODS

Enriched and restored foods are good.

Some rice and other cereals are restored

Some flour is enriched.

When we can not buy whole grain flour and cereal we will look for ENRICHED or RESTORED on the package.

Group V.

FATS AND OILS

Hard fats are muktuk, margarine, shortening and bacon.

Soft fats are oils from oogruk, seal, beluga and fish.

All fats help us work and play.

Some fats keep our eyes and skin healthy.

Those fats are margarine and soft fats.

FINIS

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